AUDIO VISUAL COMMUNICATION REVIEW

Charles F. Hoban — Research and Reality

Nicholas Rose
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Seth Spaulding — Communication Potential of Pictorial Illustrations

Jack C. Ellis — University Film Societies and Series

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RESEARCH AND REALITY

• CHARLES F. HOBAN

Here is an examination of the realities of AV communication research that considers the implications of the researcher and his training, the restrictions of research support, the orientation of research, and the problems of evaluation research. Charles F. Hoban is a member of the research staff, Institute for cooperative Research, University of Pennsylvania.

DURING and since World War II, a million or so dollars have been spent in research on motion pictures and television used for education, training, and information. For the most part, research results have been published in book form, in technical reports, and in professional journals. But what of the effects of this research on the improvement of production, distribution, and use of films and TV in education? Nobody knows for sure. This in itself indicates that something was amiss in audio-visual research programs of the past.

Enough water has flowed under the bridge of AV communication for us now to examine the research situation somewhat critically, and to indicate some of the requirements that implementation places upon research and the researchers. At this time, and within the state of the art, it appears quite unlikely that research implementation can be substantially improved unless three conditions are met:

1. Problems researched are *operationally important* to the user.

2. *Two-way communication* is established between research and operations.

3. Research results are *presented* in such form that action decisions can be based on inferences drawn from research data.

This may be a tall order, but it is not an unrealistic one. Among other things, it calls for some reorientation of the philosophy of AV

research and researchers. It does not call for junking the scientific method or degrading the integrity of the researcher.

In getting at the roots of the problem of research implementation, it is useful to take the wraps off some subjects usually not mentioned in public print, or at least not very often. One such subject is the researcher and his training and another is the sources and restrictions of research support. A third is user-orientation of research programs, and a fourth is evaluation research. The sections that follow discuss each of these topics briefly. The purpose of this article is to open up these topics for airing and further discussion, not to discuss any of them exhaustively. Unless specifically indicated, no particular university, research program, or researcher is referred to in the discussions. Instead, the discussion is intentionally generalized and simplified.

I. THE RESEARCHER AND HIS TRAINING

Research is a profession, sharing all the requirements of a profession spelled out by Finn (2) in the first issue of this REVIEW. It requires an intellectual theory and technique, a long period of training, association and communication between members, and a code of ethics and standards.

The researcher is professionally trained in the graduate school of a university. By and large, his training is equated with a program of study leading to the PhD. Hence, the requirements for the PhD degree are determinants of the researcher's training experiences, and consequently of his indoctrination in the rules, procedures, and sanctions of the research profession.

Inherent in this training-indoctrination program is the notion that the successful candidate for the PhD must: (a) make an *original contribution to the general fund of knowledge* in his chosen field of scholarship, and (b) *work by himself* under the paternal guidance of his professor and the censorial eye of his dissertation committee. Team-research is still rare in the doctoral training program, and in many instances the concept of the utility of research findings in the world of action is virtually rejected. Thus, the researcher is trained to work as an individual, to the neglect of team-work; and the criterion of his contribution is that of originality, to the neglect of utility of research contribution.

A continuing tendency of the researcher to dissociate himself from the operational application of his research findings may be traced to these characteristics of the long period of training the

researcher undergoes in his graduate study program. Both team-research and useful applications of research results are characteristic of modern industrial and governmental research laboratories, and in the growing field of operations research which serves business, industry, and government on the managerial level. Consequently, the graduate schools of the country may be performing a disservice in training the rank and file of researchers in disregard of the realities of industrial and applied research in which many of their alumni seek and find employment and distinction.

One possible step in the utility reorientation of AV research might be the establishment of a system of rewards to the researcher for the demonstrated effect of his research on the action level. In the AV field, this means that rewards be given for the contributions of research to the improved production, distribution, or use of AV materials in education, training, and public information. These rewards should be public in nature, and compare in prestige and professional satisfactions with the rewards given in academic institutions for contributions to the general fund of knowledge. They should, in effect, reflect credit on the researcher and thereby refract it on his alma mater.

II. RESEARCH SUPPORT AND RESTRICTIONS

The researcher is a professional worker paid by somebody or some organization to do something, namely, research. With research support go research orientation and research restrictions. He who pays the piper calls the tune insofar as he is able and willing.

There are five, and only five sources of financial support for research: (a) the researcher himself, (b) the general fund or endowment, (c) the foundation, (d) private industry, and (e) the government. Let's take a look at each.

The researcher is frequently the source of his own research support. If he carries on research in otherwise unobligated time, he pays for his research by sacrificing whatever else he would be doing if he were not doing research. The unsubsidized graduate student is a ready example. By doing research for his PhD, he is not doing something else that carries monetary, ego, or professional rewards, or all three. So, too, with the faculty member who does unsubsidized research rather than teaching additional classes, working as a consultant, participating part-time on some sponsored research project, or going fishing as insurance against an expensive nervous breakdown.

But even in his unsubsidized research, the researcher receives some institutional support in the way of facilities and services. He has a role and generally a title that carry institutional status and community prestige, an office of a sort, a desk, tables, some secretarial time. Also, a faculty member may impose on his graduate or undergraduate students for help in conducting experiments and processing data, for example.

Despite these physical and social supports, the unsubsidized researcher operates within three sets of restrictions. First are the restrictions imposed by institutional and departmental sanctions. If, for instance, the department of which he is a member is committed to one area of research, and the researcher decides to devote his efforts to another (nonsanctioned) area, he is likely to find it difficult to obtain the facilities required for his projected research, and his activities may be subject to some censure or ridicule. A second restriction is in the scope of his research problem. He can only do unsubsidized research in problems that require no paid assistants and no new equipment. A third restriction is available time. Unless he has some degree of economic independence, the unsubsidized researcher has only that amount of time available for research that is unassigned as part of his contractual and implied duties.

The point here is that the idea of complete freedom and unbounded independence of the researcher is somewhat illusory, not in accord with the facts of life. Even the great Sir Isaac Newton was dependent on the hospitality of his mother at the family farm in Woolsthorpe where, during the Great Plague of 1665-66, he laid the groundwork for his enormous contributions to physical science and mathematics.

The research fund at the university removes some of the restrictions of unsubsidized research, provided the research committee approves the proposal for a grant and this grant is sufficient to provide the necessary facilities, assistance, and equipment. Most universities have a research fund for use of its faculty. It may come from a general fund if the university is state-supported, or from endowment income if not.

Committee approval of a research proposal imposes three restrictions on the researcher. These restrictions are relatively easy to take, but they are restrictions. One, the proposed research must coincide with the research policy that guides the committee. Two, it must be a specific project, i.e., it can't just be "research."

And three, the researcher is expected to complete and publish the proposed research. Thus, the researcher must now (a) mesh his research with the policy of the subsidizing institution, and (b) complete and publish his project. If the researcher does not meet the former restriction, his request for funds is refused. If he fails to meet the latter, his chances of getting another research grant from the same source are diminished. This has the effect of reducing the tendency to investigate problems that carry the risk of negative or ambiguous results. Such results are not to be scorned, as they often open the doors to important discoveries. With research subsidy come restrictions on the absolute freedom of the researcher.

A third source of research support is the foundation. Much of the research in AV communication has received some foundation support. Research in educational radio and motion pictures prior to World War II was Rockefeller-funded. The Nebraska study (7) was funded partly by the Carnegie Corporation and partly by Teaching Film Custodians. The Penn State (1) closed-circuit ETV research is subsidized by the Fund for the Advancement of Education.

Foundations don't just give away money for research willy-nilly. They have both a policy and a program. Research subsidized by foundations must coincide with the policies of the foundations and with the research programs to which they are committed. In addition, it is a general policy of many foundations that support research to invite institutional participation in the foundation-supported research, including cost-sharing. This spreads the foundation's research funds across a larger area of effort and increases the likelihood that the funded research will be continued after foundation support has expired.

Another policy of foundations, particularly those supporting social science and medical research, is to anticipate some second order effects from the supported research. By "second order effects" is meant some widely distributed action based on the research finding. The reality of second order effects expectation is illustrated by a paragraph in a published letter from the Vice-President of the Fund for the Advancement of Education to the Director of the Instructional Research Program of Pennsylvania State University, regarding the second year of the educational television experiments at that institution:

> We have agreed, too, in carrying forward the project that it would be

> appropriate to set up an advisory committee of 8 to 10 persons and that you will proceed to do so. It will be the function of this committee to offer suggestions and to stimulate interest outside the Pennsylvania State University in the possible use of television in case the demonstrations at Penn State are successful (1).

In this advisory committee on the Penn State ETV experiments a mechanism for second order effects of the experiments is established. Both research and action based on favorable research findings are treated as components of an information-action system. The advisory committee is the link between these two components, integrating them into a system.

As financial support moves from the local institution to the philanthropic foundation, research restrictions are generally increased. The research must now be consistent with the policies and programs not only of the local institution but also of the foundation. With foundation funding of the research program often goes an increasing sense of obligation for second order effects of the research, reaching beyond the confines of the campus. Being national and sometimes international in scope, foundations think nationally and internationally, and the programs they finance are chosen because of their predicted or hoped-for national and international contributions.

In such a state of research support, the researcher exists in an environment in which the utility function of research tends to be recognized, to be provided for, and to be entered into the research program. For better or for worse, utility orientation exists in this research environment.

Let it be understood that the Instructional Film Research Program at Pennsylvania State University, which preceded the current Instructional Television Research Program, has had a strong element of utility orientation, and that this characteristic of the present ETV research program is not new, but better organized.

A fourth source of research financing is private industry. At least two major AV programs were industry-financed in whole or in part. The Wood and Freeman (11) study of silent films for school use was conducted with funds provided by the Eastman Kodak Company. As previously noted, the Nebraska study also received some support from Teaching Film Custodians.

Industry-financed research has many of the same restrictions as research supported by foundations, with the additional restriction that it is generally one-shot in nature and is very specific in its orientation. Second order results are implicit goals of industry-

financed research. Consequently, a high degree of local involvement in the research program is likely to occur in industry-financed AV research. This was true of both the Wood and Freeman and the Nebraska studies. Here the researchers moved into the world of action.

From the caliber of people who conducted the industry-financed AV research, it can be assumed that private industry brings no effective pressure on the researchers to bias their results favorable to industry interests. In the not-too-distant past, it was intellectually fashionable to view private industry in the role of a social villain, and hence to view its actions with suspicion and distrust. Lately, either private industry or its viewers-with-suspicion, or both, have changed complexion, and private industry is now regarded as a desirable source of university support and patronage. Industry-financed research is now approaching academic respectability, although there are still die-hards in the academic camp who view it with askance, particularly when industry's research funds go elsewhere.

The fifth source of research financing is the government, mostly the federal government. Government-financed research, like industry-financed research, is administered in two ways: (a) either through its own research laboratories or organizations, or (b) by contract with universities or privately operated research organizations.

The bulk, but not all, of the research in AV during the past dozen years has been government financed. The AV research programs of Penn State's Instructional Film Research Program, George Washington University's Human Resources Research Laboratories, the Air Force's Human Resources Research Laboratories, and Fordham's and Iowa State's TV studies all were either government financed or government operated.

As a rule, government-financed research is more restrictive than research supported by any of the other sources. Sooner or later, there is a strong emphasis on operational problems, and useful results are considered essential. Applied and operations research demand solutions to specific problems within definite time limits. The problem area and the due-date are sometimes specified for the researcher. Thus, the researcher is confronted with: (a) an assigned problem, which he must work on, and (b) a research schedule, which he must meet! Both are anathema in the purely academic world.

Furthermore, applied and operations research do not necessarily contribute to the development and extension of theoretical constructs and systems. Frequently, the data of such research have limited generality. Generality of research results is essential to theory development. Theory development is a desideratum of scientific research. As a result, conflict between the academically-trained researcher and the research sponsor frequently arises in government-financed research.

On the other hand, upper and lower salary limits in governmental research are frequently better than those of the teaching staff of colleges and universities, and advancement up the pay ladder is considerably more rapid. These bonus effects go with the restrictions, and compensate for them financially, but the academically-oriented researcher doing government work sometimes wants to have his freedom and his support too. Somewhere along the line, there is a temptation to transform research from a profession into a priesthood.

This discussion of the researcher and the sources of research support illustrates these points: (a) all research is oriented, either toward the general fund of scientific information, or toward decisions by managerial and operational people in the world of social action; (b) as research support moves from self-support toward support by national agencies, the orientation of the supporting agency tends to move in the direction of operational decision and implementation, i.e., toward utility; (c) graduate study does not *ordinarily* train researchers in values and skills of utility-oriented research; (d) other than financial, there is no adequate system of rewards for utility-oriented research.

Without some major adjustments, it can hardly be expected that research will generate implementation. This leads to our next consideration in the examination of the AV research situation, namely, user-orientation of research.

III. USER-ORIENTATION OF RESEARCH

The term, user-orientation, is a late and frequently unwelcome comer to research. As a result, it tends to be mushy when discussed, tacitly rejected in practice.

In a sense, all research is user-oriented when use is defined as a role. The researcher himself is a user when his research is done as a professional survival or improvement activity. He uses his research to maintain or improve his professional status. His pro-

fessional colleagues, too, are users when they incorporate the published research in a lecture or required reading program of a course they are teaching, or base their own research on these published results.

In this article, user-orientation is used to mean the design and reporting of research so as to facilitate effective solutions of problems of the producer, distributor, or consumer of AV materials. Thus, for the sake of argument, we rule out the researchers in, and the teachers of AV as (prime) users of AV research.

The discussion of user-orientation of research will center in (a) problems that are important to the user, and (b) communication between the researcher and the user. Before opening the discussion of the former, i.e., operational importance of the problem researched, let it be understood that in this section and in Section IV to follow, this is not regarded as a one-sided proposition.

The fact is that the user may not be able to specify to his own best interests the areas and problems that are operationally important. The determination of what is operationally important is a research task in itself, often the most difficult task in research.

Let us examine user-orientation of research problems in terms of the producer of AV materials. Assuming that he has selected or been assigned a subject on which to make a film, or produce a TV program, he must make decisions on the following: (a) the story, (b) the story treatment, (c) character action, if there are to be actors, (d) studio-staging, including location and animation, (e) casting, (f) direction, (g) camera use, and (h) editing. These decisions must be made within the constraints of the available budget, personnel, facilities, and equipment, and within the objectives for which the film or TV program is to be produced.

Now think of the volume of AV research reported to date and ask yourself how much of this research has been oriented toward the problems of the producer. The answer is: comparatively little. In retrospect, it is apparent that these areas of production decisions have been largely ignored, or have been investigated too narrowly or too pedantically in AV research over the past 25 years. This, of course, is hindsight, much more facile than foresight.

In recent and current TV research, user-orientation of research problems is more evident, but still far from overwhelming. There is no serious threat to pure science in the modest trend toward utility orientation in the various ETV research activities. The real

threat is, as Mercer and Becker (8) imply, in substituting propaganda for research.

The field is indebted to Mercer and Becker for their discussion of the disenchantments of ETV. In their readable article, some of the problems of producing and scheduling television for classroom and home viewing are presented with refreshing lucidity. Availability of talent, costs of equipment and maintenance, salaries of technicians vs. professional salaries, script preparation and rehearsal time, reliability of the kinescope process, commercial competition, audience diversity and distraction, and filling air time are among the items discussed. Not all these problems can be solved by research, but in the interest of an honest and competent attempt to solve the problem of feasibility of ETV, these parameters of the problem must be studied and entered into the evaluation equation.

On the positive side is the current research on closed-circuit ETV at Penn State. Studio equipment is recognized as a parameter, and in the first year's program relatively low-cost equipment was used. Another parameter of the first year's research was program presentation: no major medium-adaptation was made in the lectures and demonstrations of the psychology and chemistry courses taught over closed-circuit TV. Instructor presentation before the TV cameras was in the same format as before a TV-less class. Instructor and student reactions to TV-taught classes were included as dependent variables, as was the informational learning from the TV and non-TV taught courses. Maintenance stock, rate, and cost were also considered as a parameter, and free election of courses in the fields taught in the experiments was also considered as a dependent variable. This represents an expansion of vista of the ETV feasibility problem, and a definite trend toward user-orientation of the AV research program.

A second requirement of user-orientation is that effective communication be established between the researcher and the user. This has two aspects: (a) the channel for reporting research, and (b) the presentation of the report so as to be received and accepted by the user.

On the professional research level, professional journals reporting research studies and theoretical discussions circulate among members of professional associations and in university and special libraries. An informal extension of this channel is the "rēprint circuit," by which the author circulates his printed article to a carefully selected audience of his peers. But those who are to

implement the reported AV research are not regular readers of this literature, or, if they are, their standards of literary appreciation are not as reverent.

Another professional communication channel is the annual conventions of the professional associations. Hundreds of research papers are read at the various subsections of these meetings. Face-to-face communication is intense, both in the formal sessions and in the numerous get-togethers in bistros, hotel lobbies, and coffee shops. But the implementers seldom attend these meetings either, so they do not hear the papers read or participate in the earnest chit-chat over the beverages. Other communication channels are required.

Research organizations which have enjoyed a measure of success in influencing operating decisions invariably use the conference technique for *face-to-face* communication with users, supplemented by written reports, both of which are prepared so as to be well understood by the widest possible user audience.

Face-to-face communication between the researcher and the user is done under three stringent requirements on the communicator: (a) The research results must be understandable and have demonstrable bearing on the user's problems, otherwise the audience gets restless, gives the research reporter a hard time in the discussion period, and eventually withdraws mentally, physically, or both. (b) The findings must be significant; otherwise, they are not worth face-to-face reporting to the user. Trivial research results do not stand up well in research-user conferences. (c) The presentation of results must be carefully planned and amply illustrated; otherwise, it suffers by comparison with modern standards of conference presentation, and succumbs to ever-present competition for the user's time and attention.

The user also imposes another communication requirement on the researcher. Since he must make policy and operating decisions and take action on them, he needs the kind of "guestimates" that he feels the researcher, as an "expert" on the subject being discussed, is qualified to make. This means that the researcher must be prepared to present and discuss the implications of research findings that he ordinarily would reserve for firmer evidence than he has at the time. When he does this, he has the obligation to define his confidence limits, and identify implications as implications, guesses as guesses, and speculation as speculation. However, refusal to make educated guesses is a luxury the user is not always prepared

to grant the researcher in AV communication or any other field of applied research and scholarship.

The idea that the researcher must compete on new playing fields and under unaccustomed rules-of-the-game for the time, attention, and deliberation of the consumer may be considered blasphemous within the historical image of scholarship and the scholar, but it is one of the realities of research communication and implementation. Among producers, distributors, and consumers of AV materials, the AV researcher must prove himself, and the proving ground is under user control, built to user specifications.

To sum up, user-orientation of research requires that: (a) the researcher specify and investigate problems important to policy-makers, managers, and operators in the field to which the research applies; (b) establish channels of face-to-face communication with the users, i.e., the implementers of research findings, and (c) meet the criteria of the user in reporting research results. In effect, this means a reversal in traditional research orientation.

IV. EVALUATION RESEARCH

Suppose all principles of AV communication, derived from research and experience, and deduced from formal theory, were to be communicated to everyone conceivably in a position to apply them. Even then, there would be a chasm between communicated knowledge and its application. Knowledge of principles and application of principles are not the same. The one does not necessarily lead to the other except by some kind of suffering and undergoing, or some kind of genius or near-genius. Since most of us are neither geniuses nor near-geniuses, we must suffer and undergo to learn. We learn from the knowledge of our mistakes and of our successes, i.e., from knowledge of results. Hence, knowledge of results is essential for improvement of operations. Evaluation research serves precisely this function.

Evaluation is the appraisal of performance. It is based either on experience or insight, as in panel evaluation, teacher or student evaluation, etc.; or on the comparison of measurements taken on a sample population(s) with some norm or standard of performance, as in evaluation research. The discussion here will be limited to the latter basis of evaluation, even though there is no sharp distinction or mutual exclusiveness in actual practice.

Evaluation research is decision-oriented, generally quantitative in character. Its purpose is educative, not punitive. Its function

is the feedback of performance information for correction or approval of a product.

Evaluation research has not taken hold of the field of AV communication in education. There are a number of reasons why not. For one thing, its function is not thoroughly understood, or, if understood, is not accepted as necessary, important, or desirable. For another thing, it is expensive and time consuming. Moreover, it is restrictive on the researcher, carries few if any professional rewards, and requires skills in human relations and group processes not taught in the graduate training program. Furthermore, its results frequently include negative findings which are understandably unwelcome, actually threatening. When this happens, nobody loves the evaluator, not even himself.

Under these distressing circumstances, it may properly be asked why the subject of evaluation research is even brought up for discussion. The reason is simple, perhaps too simple. It is based on a belief in the low probability that the fund of information on AV communication already generated by AV research will be widely implemented without considerable expansion of evaluation research activities. This belief, in turn, is based on the assumption that learning is a process of individual discovery, that people must learn for themselves within the context of their own needs and their own problems.

Evaluation research in AV communication deals with success and failure in selecting and applying basic principles to specific communications elements and situations. It deals with selection of principles, in that the wrong principle may be applied, and with the application of principles, in that the right principle may be wrongly or poorly applied.

Audience polls on commercial TV illustrate evaluation research in its most simple and least fruitful form. The number of program viewers is important to the program sponsor, whose intent is to sell a product or increase public goodwill. If the poll, based on a sample of the population universe, shows that TV program x has a low rating (number of viewers), either the producer changes the program format so as to increase the program rating, or program x is canceled by the sponsor. In this case, the criterion of evaluation is the number of viewers.

The usefulness of a single index criterion, whether a number or a scaled value (e.g., excellent, good, fair, poor), is extremely limited. It tells how many do something, but does not indicate why. Hence,

it provides little information upon which modification can be made in the product to increase the probability of obtaining the desired result. What is needed to make evaluation useful, to satisfy its feedback function, is information on the effectiveness of specific elements of the material being evaluated, including, as necessary, information on distribution, audience composition, and viewing situations. On the basis of such information, and only on this basis, can decisions be made on what to keep and what to change, with uncertainty reduced to a minimum.

Some of the requirements for satisfactory evaluation research can be analyzed out of the few evaluation studies (3, 4, 5, 6, 9, 10, 12) of films intended for military training and indoctrination. Among elements included in this evaluation research were: scope of subject coverage, doctrine, story treatment, studio and location treatment, direction, narration, teaching techniques, character portrayal, animation, music, and color photography.

Effectiveness of principles applied to these elements was measured in terms of changes in information and opinion of the target audience, audience projection into film situations, interest and training ratings, scenes and characters most vividly remembered, conformity of characters to audience standards of role performance, overt behavior changes in personal habits, and other such things. Audience characteristics taken into account in these studies included length of service, grade status, stage of training, formal education, and previous instruction in the subject. Situational characteristics included classroom and auditorium showing and integrated and nonintegrated training use.

The user-orientation of this evaluation research program is obvious from the statement of the problems studied, the measures used, and the audience and situational analyses. Three additional requirements of this type of research are also implicit. First, each of the evaluation studies was undertaken by the evaluation staff in response to a specific request from the sponsor, the producer, or the approving or using agency. Second, findings of the studies were fed back for entry into decisions on matters of budget, production techniques, personnel assignments, preproduction analysis, utilization procedures, and the like. Third, a variety of measures was employed to obtain measurements of the obtained results for comparison with intended results and norms of effectiveness.

These requirements or characteristics establish evaluation research as a component of a closed-loop information-action system.

Informational requirements in the form of problems are fed to the evaluator by policy-makers, management, and operating personnel. Correction data are fed back by the evaluator, based on observation of performance and presented in such form as to be easily compared with intended results. Decisions are made on the basis of the data, and changes are made in the product (process, program, etc.) to bring it up to prescribed standards of performance. It is the basic thesis of this article that implementation of research findings will reach the optimum only when both research and its implementation are planned as components of an information-action system, and that two-way communication, including feed back, between the researcher and the user of research findings is built into the system from the beginning.

Earlier it was said that the purpose of evaluation is educative, or more properly, re-educative. To fulfill this purpose, evaluation research requires careful handling. It was pointed out that skill in human relations and group processes is necessary if the evaluator is to do his job effectively. This applies to all evaluation research, and especially to the evaluation of a film or TV program after it has been approved and released for public distribution. Corrective action by the producer on any deficiencies the evaluation research may reveal is precluded, once the film has been distributed. Hence, the producer may easily be placed in a blame situation from which he cannot extricate himself. In this event, evaluation can be put to punitive use, and the process itself seriously threatens those directly responsible for or involved in the product being evaluated. The educative implications of this situation are clear from Allport's axiom that "people cannot be taught who feel that they are at the same time being attacked."

The threat of evaluation research to those whose activities are being evaluated can be reduced, if not totally removed, by three procedures: (a) prerelease evaluation where feasible, (b) cooperative planning and participation in the evaluation study, and (c) communication of results on a need-to-know basis. Each will be briefly discussed.

Prerelease evaluation permits correction of error prior to public distribution of the product being evaluated. It has the disadvantage of delaying the completion of the product, with accompanying increase in overhead cost, plus the possibility of additional time and cost of reshooting, re-editing, or renarrating to bring the material up to the required standard of acceptance and effectiveness.

If no revision is necessary, this fact alone is generally worth the time and cost it takes to find it out, and if revision is necessary, pre-release evaluation makes it possible to do it.

Participation in planning the evaluation by those who are to put its results to use is both a threat-reducing procedure and a way of improving the study itself. In this context, evaluation is not something one group does to the product of another group. Instead, it is a cooperative activity in which the evaluator works as a member of a team to improve the performance of other teammembers and the effectiveness of their product. After all, the writer wants a good story and good story treatment, the narrator wants an effective narration, the director wants an interesting, lucid film with the impact necessary to produce the intended results in the audience.

Need-to-know is generally a useful criterion for communicating results of AV research so as to satisfy its feedback function and minimize the danger of punishment for negative results. A conference of mutually interested and responsible parties provides a face-to-face channel for this communication. The academic compulsion to rush into public print with every piece of research is no more appropriate for evaluation research than it is, in general, for all research. There are several channels of publication, several publics, several ways of reporting results, several kinds of results to report, and several consequences of mixing these ingredients under various formulas. The range of alternatives is very broad, and the subject of communication of research results requires serious study.

A word on the relationship between evaluation research and basic or systematic research is in order before bringing this discussion of evaluation research and research and reality to a close.

Ideally, there is a high degree of interrelationship and interaction between basic research and evaluation research. The evaluator draws his major concepts, insights, theoretical orientation, and scholarly information from the research and theory that deal with the fundamental principles and mechanisms involved in the applied field in which he works. Within the restrictions of time, budget, personnel, and appropriateness, he uses the scientific methods and scientific tools of basic research in carrying out evaluation or applied research.

Systematic theory of communication is essential to the prediction and control of communications behavior. In general, this development is associated with universities and research institutes.

Such theory, even in fragmentary, primitive, and incomplete state is indispensable to improvement of communication. Theory, plus insight, plus experience are the warp and woof of planning and correction of AV materials.

As a matter of fact, the evaluator and his counterpart in the title of educational or audio-visual specialist in the major studios of nontheatrical motion pictures and educational TV have a unique role of teacher and interpreter of the science of audio-visual communication. They are a prime audience of the output of basic research centers. They act as intermediaries through which the output of scholars and scientists in the field flows into the operational use, if and when it does flow. They filter this output, translate it, and interpret it to the user.

Evaluators have another role which reverses the direction of the information flow. In this role, they are the generators and transmitters of research problems, insights, hypotheses, and hunches to the basic research centers for investigation, verification, revision, or extension. Evaluation research itself serves as a testing ground for theories generated by basic research, and it maintains research contact with the real world of AV communication, sometimes the only contact.

To sum up, evaluation research: (a) is educative in purpose and cooperative in method, (b) provides a two-way flow of information between the researcher and the user of research results, (c) is a necessary or, at least, a highly useful means for implementation of current scientific knowledge of AV communication, (d) generates problems and hypotheses for basic research in order to improve systematic theory upon which action may be based and results predicted, and (e) requires skill in human relations and group processes in addition to competence in scientific method and knowledge of the communication sciences.

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THEORY AND APPLICATION OF PREPRODUCTION TESTING

• NICHOLAS ROSE

• CHARLES VAN HORN

In the preceding article, Hoban pointed out the need for prerelease evaluation of educational communications. This paper presents a theory and a technique for the application of such evaluation. Nicholas Rose is chief clinical psychologist, Wadsworth Hospital, Veterans' Administration Center, Los Angeles. He was formerly research director at the Department of Cinema, University of Southern California. Charles Van Horn is research associate, Department of Cinema, University of Southern California.

INTRODUCTION

TECHNOLOGICAL advances in motion picture production have increased the quality and versatility of the products, but in doing so, have increased their cost and complexity to a point where the film maker who does not enjoy a strong financial position cannot risk an unsuccessful production. If such a film maker could have advance knowledge of the probable effectiveness of his approach, in terms of learning, attitude formation, and the like, he could proceed with the comfortable assurance that his efforts were likely to be successful; or he could evaluate proposed changes in his script, scene content, or continuity before expending large amounts of time and money. The purpose of preproduction testing is to provide such information.

The rationale of preproduction testing is based on two premises: that the production of a film is not an end in itself, but a means by which some desired effect, in the form of teaching, entertaining, or influencing people may be achieved; and that the primary criterion by which a film must be judged is the extent to which

it achieves that effect. As the use of films for specialized purposes increases, communication becomes more complex, and familiarity with systematic procedures by which effects may be predicted becomes a necessary tool of film making.

The contributions of many persons to the production of a film are well recognized, but for convenience in the discussion that follows, this entire congeries of artists and technicians will be referred to under the name "film maker" or "producer," as though they were a single person.

WHEN THE USE OF PREPRODUCTION TESTING IS INDICATED

A test to determine the effectiveness of a film is most readily conducted and is maximally profitable when one or more of the following conditions are present:

1. The producer's intent is clearly stated. The degree of specificity with which the producer describes the attitudes he wishes to engender, states the points of information he is trying to convey, or defines the objective he intends to accomplish, is related to the accuracy with which predictions can be made concerning the effects of his film on a given audience. Attitudes can be measured in the absence of such a statement, of course, but the task is more difficult, the results less directly applicable, and the outcome less certain.

2. The target audience is specified. Any viewer's perception of a film is the result of an interaction between the person and the stimuli he receives. Within any given segment of the population, differences between individuals are minimized and the members of an audience receive similar impressions of a film because they share similar backgrounds and experiences. In some other segment, however, the same film will give rise to another set of impressions, uniform but entirely different from the first because of the differences in experience and knowledge which the audience brought to the film. Little psychological sophistication is required to realize that a preproduction test of a training film conducted among eighth-grade girls will have little value in predicting its effectiveness for teaching Air Force Cadets.

3. The content is complex. It is immediately obvious that all films do not represent equal orders of complexity of content. The need for preproduction testing increases with the level of complexity, for the number of possible misinterpretations of highly complex or abstract material is greater than for simple and straight-

forward content. Since the purpose of such testing is to discover and correct these misinterpretations before they are included in the final version, the greater need for such testing of complex films is readily seen.

4. No precedent exists for content or method. When the content or objectives of a proposed film are similar to those of an existing one, a clever producer will profit by the experience of his predecessor; and if systematic data are available concerning the effects of the first film, his problem is further simplified. Experience, although of inestimable value, is not an adequate substitute for systematic analysis in drawing conclusions concerning effects. Generalizations from one film to another in this respect should be made with considerable caution. The need for preproduction testing is more urgent, however, when dealing with material for which no precedent in film making exists, or when the members of a production unit lack experience with a specific topic or technique.

THE POINT AT WHICH PRETESTING IS TO BE APPLIED

One of the most difficult decisions to be made in planning a preproduction test is the selection of the stage in production at which it will be applied. Economy demands that it be applied early, for changes indicated by the results are most easily made during the planning stages of production; applicability demands that it be postponed, for the accuracy of the predictions increases as the form in which testing materials are presented approaches that of the finished film. The greatest profit is realized when preproduction testing is applied at that point which represents both the earliest stage in planning at which useful information may be obtained and the latest point at which changes in the film are practical.

The ideal test would be one in which an audience could examine a script or a treatment and describe their reaction to the finished film. This ideal is unfortunately unattainable for the same reason that an architect cannot predict how well his client will like living in a house for which he has seen only rough sketches or blueprints. The model does not represent the finished product with enough accuracy for the client to have the kinds of experiences he needs to make such a judgment.

The crucial decision of when to introduce the test is resolved to one of determining the earliest stage in production at which a sufficiently representative model of the finished film can be provided

for the test audience Experience has demonstrated that, in most cases, the story board is the earliest form with which persons unaccustomed to thinking in cinematic terms can make judgments which will be systematically and reliably related to their impressions of the finished film. Exceptions to such a rule inevitably occur; in some cases the nature of the content is such that a more advanced stage of production, a rough cut for example, will be needed to give useful results, while in others very valuable information about audience effects may be obtained by using narration without visuals. Experience in such testing and familiarity with the theory on which it is based are required to recognize exceptions to the general rule.

A fundamental difference which seems to characterize these exceptional situations is found in the relationship of the content and the nature of the symbols used, to the experience and backgrounds of the viewer. If the action or sequence to be presented in the film is very familiar to the viewer, then the static story board picture, or in some cases, no visual symbol at all, will suffice. When the process or event represented is not familiar to the viewer, or when the exact nature of the motion is crucially necessary to understanding the content, then a static symbol will not provide adequate representation of the intended process and story board or narration testing will not be sufficient. It is in these cases that reliable predictions of effectiveness cannot be made before the rough cut stage of production.

THE RATIONALE OF PREPRODUCTION TESTING

This discussion may be best understood by placing the film in a communication context and examining it, and the practice of preproduction testing, in terms of known principles of communication theory. One of the basic principles of such theory is the distinction between one-way and two-way channels of communication. In one-way systems, which include motion pictures, a source (producer) transmits messages (content) to an interpreter (viewer) without ever receiving any messages in return. The source is always a source but never a receiver, and vice versa. A producer of educational films (message source) has no way of knowing if his audience (interpreter) makes ill-founded decisions or reaches erroneous conclusions on the basis of misunderstood or misinterpreted content. Any error of judgment on the part of the producer becomes and remains a part of the film because he who erred is not made aware of his error.

In a two-way system, the receiver may become a source of messages directed at the former transmitter, who now acts as an audience. Questions may be asked about misunderstood or misinterpreted portions of the original message and thus provision is made for correcting unexpected or unintended interpretations. The purpose of preproduction testing is to add this return channel and make a two-way communication system. By this process, the producer obtains "feedback" from his audience at a time when corrections and clarifications are not prohibitively expensive.

A discussion of any communication process involves consideration of four interrelated areas: the communicator, the content of his message, the audience, and the situation in which the communication occurs. In the case of a motion picture, the communicator is a group of persons; writers, directors, editors, and the like; the visual and auditory images of the film comprise the content; the audience is all the persons who see the film; and the situation is the physical, intellectual, emotional, and attitudinal climate in which the film is viewed.

The Communicator. To the preproduction tester, the most important consideration of the communicator is his intent (not to be confused with content). The process of creating symbolic material is never random or aimless; the communicator's selection is always governed by some purpose, implicit or explicit, which is related to the effects he wishes to create in the audience. Although some films may give another impression, any vehicle for symbolic material is a means-end system, and not an end in itself. The dilemma faced by the inexperienced producer in deciding what to put in his film may be escaped by deciding what effects he intends to create. The fact that the production of a motion picture is a cooperative endeavor creates a special problem in intent, a problem not encountered in other media. Unless each member of a production unit is aware of the intent of the film, and unless his own efforts are directed toward conveying that intent, the result is apt to be misunderstanding and confusion on the part of the audience.

The Content. So far as content is concerned, the basic task of the preproduction tester is to provide a model which, in as many of its significant aspects as possible, will faithfully resemble the finished product. The success of a preproduction test is dependent on the correct identification of these "significant aspects" and the accuracy with which models embodying them are prepared. If, for example, motion is a significant aspect of the content of a film and

a test is conducted using story board sketches and narration, this aspect cannot be represented in the material presented to the test audience, and the information obtained will have little value in predicting effects of the final version, in which motion is present.

The Audience. In the whole bewildering chain of problems faced by film makers and students of the communication process, the most complex link is the audience. The producer who assumes that an audience is a passive static recipient of his film, or that the pictures he places on the screen become identical pictures in their minds, may find, to his own distress and enlightenment, that the effects he intended to achieve are not present.

The perception which any person forms of any stimulus is the result of an interaction between that stimulus and his own attitudes, experiences, knowledge, and motivations. Although no one can ever know what another person experiences, it is safe to assume that no two persons ever "see" the same thing in a film, even though they receive identical stimuli. The fact that similar impressions of a film are formed by several viewers indicates only that their backgrounds and psychological states at the time of viewing were similar. Each of us lives in a closed psychological field with his own interests, anxieties, motivations, needs, and value systems, and any external stimulus must pass through this "filter" and be altered by it before we evaluate or react to it.

It is because of this process of perceptual selection that we notice some things and ignore others, and it is because of the complexity of the process that assumptions regarding audiences or audience effects are hazardous. The escape that it offers the cautious producer from the necessity of making these assumptions is one of the more valuable features of preproduction testing.

The Situation. Although it has considerable theoretical significance, little that will be relevant to preproduction testing can be said regarding the relationship between the situation in which a symbol is observed, and the observer's perception of it. The effects of this variable are too frequently seen to be denied; the reaction of an operator of a carnival shooting gallery to a sudden loud sound, for example, differs greatly from the reaction of a soldier in combat to the same sound, and a picture popular in New York may be a dismal failure in Plainview, Kansas. Its usefulness in preproduction testing, however, is minimized by inability to exercise control over the physical environment in which such a test is made or the psychological predispositions of the audience.

SELECTION OF AN AUDIENCE FOR TEST PURPOSES

Even if it were possible, it would be impractical for a producer to test all of the persons in his target audience; instead, he resorts to a sampling procedure to obtain a small group which resembles the target audience in those characteristics which are related to their reaction toward his film. In selecting this sample to represent the entire prospective audience, the tester is preparing a model of the audience in much the same way as he prepared a model of the content, and is subject to the same restrictions and limitations. If the model does not resemble the target audience in the characteristics deemed important, the result of the test will have little value. The ease with which these significant aspects of audience characteristics may be defined is related to the precision with which the target audience is specified. In testing a classroom film intended for sixth-grade pupils, the selection of a sample is relatively simple; a theatrical (Hollywood) production, however, intended for general distribution in a population varying in age, educational, vocational, temperamental, geographic, economic, and social levels, requires sampling procedures so complex and expensive that they represent a major obstacle to preproduction testing of such films.

The efficiency, and hence the value, of predictions of audience effect is proportional to the size of the sample tested and the amount of attention given its selection. Precise predictions may be made from preproduction tests if sample audiences are selected with proper regard for relevant criteria; gross approximations may be made on the basis of smaller samples selected with attention to fewer variables.

If preproduction testing is contemplated for a highly selected audience, the film maker may readily solve his own sampling problems with reasonable assurance of accuracy. If, however, the designated audience is heterogeneous, or believed to vary in several important characteristics, then the services of an industrial psychologist or market research specialist familiar with the more complex sampling procedures may be required.

METHODS OF PREPRODUCTION TESTING

Not all preproduction tests are elaborate projects which utilize the services of a research team. This article, for example, was subjected to a "preproduction" test of a sort by submitting it to several readers unfamiliar with the field with a request for an evaluation of its clarity, and to others, experienced in such testing

to be judged for comprehensiveness. Appreciable improvements may result if the members of a production unit re-examine their script and story board with consideration of intent and audience uppermost in their minds. If the services of a researcher are available, he may administer a test and, by applying purely intuitive criteria, examine his response material with the writer and director and be able to evaluate these responses in terms of their applicability to the film.

If testing is conducted at the story board stage of production, these sketches and a script may be used for testing small audiences. If many audiences are to be tested, or if a single audience is very large, it may be more practical to photograph the sketches and present them to the audience as a film strip, along with a tape recorded narration. When testing is to be carried out at the rough cut stage, the use of magnetic striped film is recommended because of the ease with which changes may be made in dialogue or commentary.

METHODS OF MEASUREMENT

If a target audience has been specified, the producer's intent stated, and a representative sample selected, there remains the problem of determining, quantitatively if possible, the response of the audience to the film. An estimate or measurement of the degree of attitude change or amount of learning is the crucial step in the testing process, for it is this information which will be compared with the producer's statement of intent to determine the effectiveness of the film.

It is necessary to return to the concept of intent in order to construct an appropriate measuring device, for the intent not only determines what the producer puts in his film, but also what the tester looks for in the audience. The ideal observation of effect is a behavioral one which may be quantified. For example, if a film is made for the purpose of reducing absenteeism among factory employees, a count of the number of man-days of absence in a certain period before the film is shown, and the number in a corresponding period after, provides an excellent measure of the effectiveness of the film in achieving this purpose. If different story boards were shown to matched groups, the one which brought about the larger decrease in absenteeism would represent the preferred approach for making the film.

In the absence of an opportunity to watch what people do, the

next best procedure is to ask them what they intend to do, or have done. Most assessments of audience effects are, therefore, conducted by the use of interviews, questionnaires, and paper and pencil tests. The use of these procedures raises problems of motivating audiences to cooperate, determining the appropriate instrument to use and the proper questions to ask. Satisfactory solutions to these problems are based on specialized training, experience, and ingenuity, but in the hands of a clever and experienced person, such methods yield highly reliable and useful results.

Questionnaires may, in general, be divided into two categories, structured and unstructured. The former restricts the number and kind of answers that may be given to a question; for example, a statement might be made, "The main purpose of this film is to show the influence of low morale on production." The respondent may agree, disagree, or ignore the question, but no provision is made for any other response. This form of measurement is appropriate when dealing with concisely stated content, or with audiences who may be unable or unwilling to generate a response of their own. The unstructured questionnaire may take any of several forms; the most common one is the "open end" question. An example of such a question would, in the case just cited, be: "The main purpose of this film is . . . ." In this case, the respondent describes what he believes to be the principal purpose of the film in his own words, and at whatever length he deems appropriate. This form is preferred for those audiences whose motivation, cooperation, and verbal ability are such that they can create useful responses. It has the advantage of allowing for interpretations not anticipated by the test maker, and the disadvantage of being more difficult to interpret objectively.

Simple tests, questionnaires, and interviews may be planned and conducted by inexperienced persons and the results examined informally in their relation to the film. When large samples are used, or when the test or questionnaire is long, elaborate, or complex, the services of a psychological test maker may be required. The scaling, analysis, and interpretation of large quantities of test data is a difficult and highly specialized task.

The time at which a test is to be given is sometimes an important consideration in preproduction testing. Learning tests are sometimes conducted immediately after a showing, in other cases, when retention is a factor under investigation, an interval of time may be allowed to elapse before testing. Time is of even greater

importance in measuring attitude changes; the nature of the content and the personality of the viewer are often such that a shift in attitude may be detectable only if the individual is given several days, or even weeks, to assimilate what he has been told, compare it with his previous attitudes, and restructure his value systems.

SUMMARY AND CONCLUSION

A showing, to a small audience, before production has begun, may be useful to give a film maker advance information about the reactions of an audience to his film. Such tests are most useful when used early in the process of production, but not before the material available for showing to the test audience bears a systematic resemblance to the finished film. In most cases, the story board is the earliest stage at which a film may be tested, although exceptions are found to this rule. Testing cannot be utilized unless the producer's intent and the target audience are specified, and is most apt to be profitable when the content is very complex or when the production unit has had no experience with a topic or technique. Useful information may be obtained by any alert producer, but if the target audience is heterogeneous or has not been clearly specified, or if precise and careful predictions are needed, the services of poll and survey specialists or a phsychological test constructor should be sought.

The production of a motion picture, as anyone who has attempted it knows, involves a series of decisions. Preproduction testing may be viewed as a sort of "decision insurance" which, although it does not guarantee the desired outcomes, increases the probability of their occurrence.

COMMUNICATION POTENTIAL OF PICTORIAL ILLUSTRATIONS

• SETH SPAULDING

In this study the author presents some important insights into the factors that influence the communication potential of pictorial illustrations.

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THE INVESTIGATION described in this article is a portion of a larger evaluation project resulting from a program need felt by the Pan American Union's Latin American Fundamental Education Press in Washington, D. C. In cooperation with UNESCO, the press in 1951 began producing supplementary reading materials for newly literate adults in Latin America. The responsibility of the press was great—its educational materials were to be used in agricultural and health extension work, literacy programs, and many other public-service projects in Latin America. Although a few charts, filmstrips, and other audio-visual aids were, and still are, produced by the press on an experimental basis, the major portion of the program consisted of a series of highly illustrated, simply written booklets in Spanish on subjects of immediate value and practical interest to the average rural Latin American.

In planning these booklets, the illustrations were designed to help tell the story as well as interest the intended reader. A full-page captioned illustration was used for each page of text material. These illustrations appeared throughout each booklet on the left-hand page with text on the right-hand page. The text on each page was usually limited to one or two basic ideas. The facing illustrations were planned to help the reader interpret the text.

For the most part, information was couched in story form,

as in the case of a booklet on soil conservation which told the story of a typical farmer who loses his farm because of drop of productivity resulting from erosion. In all cases, the story was written with some sensitivity by well-known Latin American writers, and only experienced book illustrators were used in preparing the illustrations. The illustrators worked closely with the editorial staff in developing the over-all story unit.

Before large editions were printed for distribution, the author was asked to direct an extensive evaluation study in Costa Rica and Mexico to test the over-all communication potential of the first 12 booklets of the press. Because of the extensive use of illustrative material, it was decided that one of the aims of the investigation would be to evaluate the usefulness of the pictorial illustration in adding to the effectiveness of the booklets.

An aspect of the over-all study which will not be described here in detail showed that illustrations usually, though not always, helped the reader get more information out of the booklets used in the study. In the case of 8 out of 11 booklets tested, an average of 66 percent more information was recalled by those reading the booklets with illustrations as compared to those reading the same booklets without illustrations (2:135). This conclusion was based on the results of recall and association tests given to 102 adults in rural and urban areas of Costa Rica and Mexico after they had read one of the 11 booklets used in this phase of the investigation. Approximately half of the test subjects read the text material without accompanying illustrations and the other half read the appropriate booklet complete with one illustration per page.[1]

As in previous studies on children's comprehension of illustrative materials (1:34, 35; 3:44, 45) the additional effectiveness of illustrations was not demonstrated in the cases of all booklets used in the investigation. The figures of the remaining three of the 11 booklets showed that an average of 26 percent more information was remembered by adults reading the booklets *without* illustrations than by those reading them with the appropriate illustrations.

A careful examination of the three booklets which negated our majority results led us to propose two possible explanations:

1. Two of the three booklets used an illustrative style which we classified as "woodcut." The style violated perspective and was

[1] Both with and without illustration texts used exactly the same type face and format.

not clear-cut in terms of items and actions depicted. It attempted, for the most part, to be "arty" but not necessarily communicative. This led us to believe that illustrative material should be realistic, not violating perspective, and that such material should be carefully planned so that each drawing communicates one or two basic ideas. If the illustrative material does not communicate a clear-cut idea, it will not help clarify the accompanying text.

2. In the case of the third booklet, clear-cut, realistic line drawings were used, but the subject was a relatively technical one—that of how a typical consumer cooperative operates. This booklet, in another phase of the evaluation study, was among the three which received poorest rating in terms of information remembered by adults when reading it. Thus, there may be certain complex procedural information which is not always appreciably clarified by the use of illustrations, no matter how clear the illustrative style.

Available facilities did not make it possible to follow up explanation number two with further research. However, assuming comparable editorial competency and expert selection of content to be illustrated, it was reasonable to assume that we could investigate internal factors of illustration design and structure that affect communication potential of pictorial material. We therefore formulated a further study to isolate factors which affect the clarity of content and purpose of the illustrations themselves, irrespective of the text which they accompany.

ASSUMPTIONS AND TEST PROCEDURE

It was assumed that if representative beginning adult readers in Latin America could correctly and completely interpret a particular illustration of those used in our booklets then this illustration would add to the communication potential of the booklet of which the illustration was a part. Correct and complete interpretation consisted of generally describing the scene illustrated, including both the principal action and objects depicted, as it was intended by the artist. The access in the Washington office of the artists who drew the illustrations facilitated establishment of this criterion of correctness and completeness.

It was further assumed that the research staff could make generalizations as to probable factors of illustrative content and design which assist or block complete and correct interpretation.

This assumption was made on the basis of comparative evaluation of the interpretive responses.

The test procedures consisted of having individual respondents examine each of a series of illustrations, telling what he or she saw in the drawing. Annotation sheets, with detailed instructions to remind the examiner of the procedure, were assembled in large portfolio type folders, along with a clip and backing board to facilitate the administering of the tests under adverse conditions.

Examiners were cautioned not to ask leading questions. After establishing rapport with the examinees, the examiner was to ask only what was seen and what was happening in the illustration. The test subject could be prompted only by the question, "Anything else?"

The examiner was instructed to note the exact responses of the test subjects in telegraphic form, eliminating only structural words which would be understood when tabulating the responses.

MATERIALS OF THE STUDY

The interpretation study used the 252 full-page (approximately 5⅜" by 8¼") illustrations originally appearing in 12 fundamental education booklets of the Latin American Fundamental Education Press. These artists had prepared the illustrations and three styles could be identified. The three types of illustrations may be classified as (a) realistic line drawings (143 of this type were used in the study); (b) woodcut (90 of this type were used); and (c) stylized (19 of this type were used).

Of the 252 illustrations, 17 were black and white, and 81 made use of one added color (a brownish orange in 44 illustrations and a green in 37 illustrations).

The 252 illustrations were removed from the text and mounted separately in loose leaf notebooks. Each series of illustrations from a particular booklet was mounted in a separate notebook. In addition, two sets of each series were mounted, one set including the illustrations with original captions and the other set consisting of the illustrations with no captions. Interpretive responses as evoked by the *with caption* series could thus be compared to those of the *without* caption series.

RESPONDENTS AND TEST AREAS

The testing took place in three areas of Mexico and three areas of Costa Rica. These two countries were chosen primarily because

they represented the extremes in Latin America in terms of percentage of adult illiteracy, Costa Rica being one of the most literate and Mexico one of the least literate of the countries. Official cooperation was extended by various intergovernmental and private organizations as well as the governments of both countries.

Two rural areas and one urban center of each country were used as test locations. Examiners were recruited from adult educators and extensionists who were known to the people who would be tested, and the examiners were trained for several days before administering tests.

Because of the various other activities in the over-all evaluation project, and because of the time necessary to give the illustration tests, a total of only 98 persons were used in the illustration research. However, these 98 persons were fairly representative of the six test areas. Approximately 70 percent of the respondents were from farm families, 65 percent of the respondents being male and 35 percent female. In Costa Rica, the respondents of the over-all study reported an average of 4.3 years of schooling, while those in Mexico reported an average of 1.8 years. The majority of respondents were in the "young adult" age group, i.e., 15 years through 30 years of age. A total of 2138 separate illustrations were examined by the test subjects, for a mean average of 8.5 interpretations for each of the 252 illustrations used in the study.

ANALYSIS OF DATA

The 2138 illustration interpretations of the test individuals were tabulated directly onto master illustrations. Items that were described in an interpretation were checked on the actual illustration. Action or description was noted at the side.

The results were a series of 252 master illustrations graphically showing what 98 rural Latin Americans saw in the drawings they interpreted. The graphic evidence as visible on the master illustrations was examined with the following questions in mind: (a) What objects were seen and not seen by the test subjects? (b) What action was described and what was not? (c) What portion of the illustration seemed to attract sufficient attention to be described in detail? (d) Was there any description missing? (e) Was there any uniformity of response which would indicate that the test subjects consistently examined the illustration in a particular eye-movement pattern? (f) Did the illustrations

FIGURE 1

Of five persons, one person described the Capitol as "castle," two saw it as a "palace," one saw it as a "hospital." The "hospital" idea may have been a carry-over from a previous illustration in the same test, which depicted Lincoln's bedridden mother.

FIGURE 2

Of three persons seeing the illustration without the caption, two thought that the enclosure was a "pig-pen"; even one of the two seeing the illustration with the caption, "He Traveled on the Mississippi River," did not get the idea that the enclosure is a barge. No one called the animals "pigs."

FIGURE 3

Of five persons, no one considered this scene as taking place outdoors. One called it a "class," another called it a "lecture hall." No one noticed the crosses in the background.

FIGURE 4

Of 15 persons, all mentioned the figure as the first item. Fourteen of the 15 mentioned the "serpent" in the right hand, in that order, after mentioning the figure. No one mentioned the item in the left hand.

using color elicit any responses which would indicate that the color affected interpretation either favorably or adversely?

GENERALIZATIONS

As we thus summarized the interpretation data, we were able to tentatively propose certain generalizations:

I. *Past experience of the viewer, as would be expected, largely determines how he will interpret individual objects in the illustration.*

The interpretive errors made in describing Figure 1 are illustrative of a large portion of misinterpretations evident throughout the study. The large building in the background was associated with buildings of like magnitude with which the viewers were familiar. Thus, we tabulated the range of interpretations from "palace" to "hospital."

Figures 2 and 3 illustrate a somewhat more subtle point, mainly that the artist must be very clear in his depiction of physical surroundings, not assuming that the viewer's experience will enable him to identify such items as a river or to distinguish between indoors and outdoors. The action of pushing along a barge with a pole is not familiar to many Latin Americans, thus they would not identify the enclosure as a barge (Figure 2). Similarly, although the crosses on the hill and the typical outdoor platform would immediately identify the outdoor scene of the Gettysburg Address for most United States nationals, such clues would not touch on the experience of Latin Americans. Thus, Figure 3 generally elicited interpretations which placed the action indoors which is the most usual place for a speech.

In interpreting Figure 4, the viewers clearly showed that they tend to ignore items in an illustration which are completely unfamiliar. Although 13 out of 14 viewers mentioned the serpent in the right hand (a familiar object), not one viewer thought that the object in the left hand merited a mention.

Statistical analysis of the responses showed that a series of illustrations on the life of Lincoln elicited, on the average, the largest percentage of erroneous and incomplete responses of any of the drawings. This series was the only one done by a United States artist, and the implications may be two-fold: (a) that the artist was not familiar with the experience pattern of the audience which was to view the illustration and/or (b) that the subject

matter at hand was so unfamiliar to most of the respondents that errors and omissions were imminent.

II. *Past experience affects value judgments even to a greater degree than interpretation of concrete items.*

FIGURE 5

Most were very detailed in describing scene. However, only one person out of nine who saw the illustration mentioned that it is a "small" room, and this one case was probably influenced by the caption. No other person so described room or mentioned that it is in any way undesirable.

FIGURE 6

Of nine persons seeing the illustration without the caption, no one mentioned that the yard was dirty or ill kept. Of five seeing the illustration with the caption, "A Dirty Yard," two did not mention that the farmyard looked dirty.

A social worker might feel that the room depicted in Figure 5 is small and cramped. Similarly, an agricultural extensionist might feel that the farmyard of Figure 6 is dirty and poorly kept. For rural Latin Americans, however, the room and the farmyard as depicted are more or less what is expected, and if such people read a story which is accompanied by such drawings, it is conceivable that the illustrations would have a negative rather than positive communication effect.[2] If a room is to look small and

[2] In research partially motivated by the study described here, the UNESCO Group Training Scheme at Mysore, India, found that the presence or absence of people depicted in a village scene determined whether or not the village would be described as "poor." Two illustrations were drawn, one according to the caption, to illustrate a "poor" village and the other to illustrate a "very poor" village. The "very poor" village showed poorly dressed people carrying on their daily activities in the street, while the "poor" village showed very few people. The viewers felt that the village with the large number of people must be more prosperous, irrespective of the dress. Here, of course, we find viewers making value judgments on the basis of the one clear-cut criterion of "poorness" which they immediately recognize in the two scenes depicted. Physical cleanliness or architectural superiority mean less to this audience than the presence or absence of bustling crowds (4:4).

cramped, it may be that the artist must make it look even more so than the smallest and cramped quarters with which the viewer is likely to be familiar. Similarly, the farmyard might well be one stage more poorly kept than those with which the viewer will be familiar.

In correspondence with the author, John Burton, Medical Director of the Central Council of Health Education, London, raises a pedagogical question in reference to the possible use of exaggeration in such illustrations. Dr. Burton suggests that if exaggeration is overdone, the viewer will assume that the information does not apply to him, since his situation is not nearly so poor. This may occasionally be the case, but we feel that clear comprehension of the implications suggested is a first priority, since readers usually first make generalizations which they later apply to their own situation as principles, and not as specifics.

III. *Viewers make generalizations on the basis of a limited number of specific details.*

FIGURE 7

Of seven persons, three of these seeing the illustration with caption, no one got the idea of damming ruts or gulleys. Among interpretations are the following: "removing dirt"; "planting trees"; "sowing"; "teacher working children"; "looking"; "no idea." Most respondents mentioned figures in the foreground; figures in background were not emphasized in the responses.

FIGURE 8

Of 14 respondents, all mentioned the figure of the king first. Many did not mention the other figures, Emphasis was on the figures to the right, after mention of the king, by three out of five seeing the illustration with the caption.

FIGURE 9

No one viewing this illustration responded that the square enclosure is a well.

FIGURE 10

All persons tested mentioned the well, as compared with lack of such response to Figure 9.

The figures in the foreground of Figure 7 misplace the emphasis which should be placed on the figures in the background. Since the illustration is meant to show the process of damming up ruts, most other details not necessary to visually describe this action should be eliminated. Otherwise, added detail may motivate an interpretation that will not be compatible with the purpose of the illustration.

Figure 8 contains some extraneous detail, but all action faces the figure on the platform. Thus, attention is attracted here, and in most cases the figure on the deathbed is mentioned first, correctly identified as very sick or dead.

Figures 9 and 10 dramatically illustrate the value of well-placed visual cues. No viewers interpreted the enclosure as a well in Figure 9, while the addition of a rope and bucket ensured 100 percent correct identification of the well.

Visual cues, of course, must vary according to the cultural background of the intended audience. In the United States, for instance, a milk bottle will universally be identified, while in many other countries it would be unknown.

IV. *People in rural areas of Latin America are extremely literal in their interpretation of depicted action.*

FIGURE 11

Of seven viewers, three mentioned danger in cutting tree so that it falls toward the family.

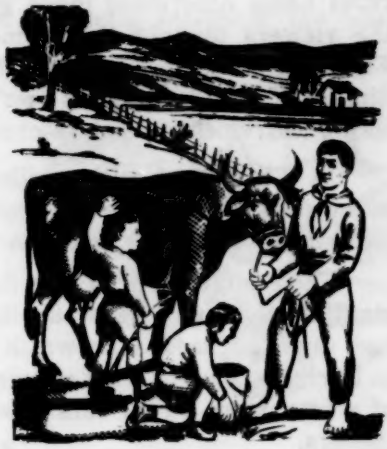

FIGURE 12

Of seven people seeing the illustration, three thought that something was wrong with the leg of the cow; one thought that the boy was cutting the leg off.

FIGURE 13

This portion of the illustration elicited comments by viewers as to the odd color of the broom and the chickens (green).

FIGURE 14

Of the four people viewing the illustration, three missed the idea of fire shown in this section of the drawing. Comments indicated that the green color of the fire caused the confusion.

Without doubt, more sophisticated audiences would not have difficulty in correctly interpreting Figures 11 and 12. However, rural Latin Americans made grotesque misinterpretations. That the viewers thought the farmer is trying to kill his family in Figure 11 shows lack of ability to interpret symbolism in drawings.[3] Similarly, the "cutting off cow's leg" interpretation of Figure 12 shows extremely literal interpretation of depicted action.

V. *The use of color in illustrative material adds to the communication value of the illustration if the color adds to the realism; color detracts if it is used unrealistically.*

The study produced, for the most part, negative data to substantiate the above generalizations. In Figure 3, for instance, the test drawing used a brownish wash which colored the one tree in the background. This coloring did not communicate the concept of a tree, since all viewers interpreted the action as taking place indoors.

Similarly, in Figure 13, a green wash colored the chickens and the broom causing considerable wonderment on the part of some viewers. The color thereby detracted rather than added to the communication potential of the illustration. In Figure 14, the use of a green wash which colored, among other details, the fire, caused more disastrous effects. No one responded with the idea of something (actually, sputum bags) being burned.

These undesirable interpretations lead us to believe that color, when used indiscriminately, can do damage. Color must be used functionally. If the tree had been colored green, the broom and chickens brown, and the fire red, the color would have been an added clue to help the reader correctly interpret and not a stumbling block to correct interpretation.

Other portions of the evaluation study showed that color usually added to the interest potential of the booklets. Single colors were used as decorative motifs, illustration borders, and in other such ways, in several booklets and appeared to markedly distinguish such books from those which used no color. Therefore, it may be that if less than full realistic color can be used in the illustration, then the color should be used elsewhere than in the illustration itself. Such color, of course, should be used to highlight portions of the text or to draw attention to the illustrative mate-

[3] It may have been that the artist who drew Figure 11 was grossly misinformed as to the advisability of the farmer's family helping him by standing under a falling tree. The artist in question, however, hedged by saying that she was symbolically depicting family cooperation.

rial, and in no case should be used promiscuously in a way that would detract from the message.

VI. *Captions help viewers to correctly interpret the illustration.*

LA ESTRELLA DESAPARECIÓ

FIGURE 15

"The star disappeared." The majority of those viewing the illustration with the caption mentioned the reason for the frightened attitude of the Indians.

HIERVE LA ROPA

FIGURE 16

"She boils the clothes." The three persons seeing the illustration with the caption mentioned the "boiling" of the clothes. Those seeing the illustration without the caption mentioned only "washing," with the exception of one person who saw "plucking the feathers of a chicken."

Of the 2138 illustration interpretations tabulated, 69 percent of the illustration-with-caption responses were complete and correct, while only 56 percent of the without-caption responses were so judged. Thus, there were proportionately about six complete and correct with-caption responses for every five complete and correct without-caption responses.

More general comparative observation of the responses motivated by the with-caption illustrations indicates that captions serve to:

1. *Describe relative conditions which are difficult to depict pictorially (dirt, poverty, health)*
2. *Name persons, places, and objects*
3. *Relate the action of the illustration with that which has gone on previously or that which will follow* (Figure 15)

4. *Specify what people in the illustration are doing (when action is vague or not familiar), thinking or saying* (Figure 16)

5. *Draw attention to certain portions of the illustration.*

In essence the quality of the responses of those viewing the illustrations with captions as compared to responses of those seeing the illustrations alone indicated that, as would be expected, visual materials are severely limited in their communication potential when used without accompanying verbal material. Captions and text serve to generalize, modify, relate, and extend the meaning suggested in the visual material. Pictures help put meaning into the words used, but the illustrations can not take the place of the words. The words, being abstractions, have skimmed off something common from thousands of concrete experiences and are therefore much more efficient communication units, especially if illustrative material assists the reader to relate the word value to his own experiential background.

In educational reading materials, the text, the illustrations, and the captions each serve a unique function in the communication process. The text offers the continuity, while the illustration orients and emphasizes. The caption, in turn, clarifies the illustration so that there is no question as to the portion of the text to which it refers and so that the visual cues are not misconstrued.

SUMMARY

As readability studies have investigated factors which influence the reading difficulty of verbal text, so this study has been a beginning attempt to isolate the factors which influence the communication potential of illustrative material. It is interesting to note that as readability researchers have found a correlational relationship between idea density (number of different ideas per number of running words) and reading difficulty, so this study has shown an inverse relationship between complexity of an illustration and its effectiveness in communicating clearly. Similarly, as readability studies show that we must use words that are familiar to the reader, so we must present visual concepts in terms of the background of experience of the intended viewer. And as in constructing effective textual material we must organize our material logically, eliminating the unnecessary, so we must simplify the design of illustration, taking care, of course, not to lose the essential.

More specifically, implications of the present study may be listed as follows:

1. *An illustration as such has no educative value, and may even be a detracting influence, if the drawing content has not been presented in terms of the past experience of the intended audience.* We may assume the "past experience" consideration to be especially significant for those who publish educational materials such as those used in fundamental education campaigns. Such materials deal largely with environmental subjects, the component details of which are often more familiar to the reader than to the artist who constructs the pictorial material. Similarly, when preparing material for children or for foreign audiences, the artist must attempt to construct the pictorial image in terms of an audience whose background of experience is much more limited and/or couched in a different cultural setting than his own.

The obvious "past experience" consideration does not mean to imply that visual material which depicts actions or objects unfamiliar to the viewer cannot be used. In such cases, however, care must be taken to use the visual construction in careful context with other illustrative and textual material, much in the same manner as a new word is introduced contextually in foreign language "direct method" texts. Meaning for unfamiliar visual symbols must be developed in the mind of the viewer much as meaning of verbal symbols must be developed.

2. *Illustrations that are intended to communicate specific ideas will be most effective if (a) the number of objects that must be seen to correctly interpret the illustration are kept to a minimum, (b) the number of separate actions necessary to correctly interpret the basic message of the illustration are kept to a minimum, and (c) all objects and inferred actions are realistically portrayed and not open to dual interpretation or secondary inference.*

These three criteria are inferred from study data which indicates that respondents made generalizations on the basis of a limited number of specific details, with unnecessary details serving only to confuse, and on the responses which showed that respondents are very literal in their interpretation of depicted objects and actions. The criterion of realism refers only to the need to portray actions and objects clearly, without violation of perspective and without fuzziness of detail. Photographic realism is not advocated,

since such representation usually includes unnecessary detail which can obscure the area of emphasis.

3. *Color in illustrative material adds to the interest potential of the drawings. However, unless used realistically and functionally, color may detract from the communication potential of the drawings.* This is especially so in the case of drawings which utilize only one color or two colors in addition to black and white. In most cases where full color realism cannot be achieved, it may be wise to limit the use of color to border and decorative motifs.

4. *Captions, in general, usually serve to add information which is difficult to depict pictorially. Captions, however, should usually not be used to explain the illustration, but rather to generalize, modify, relate and extend the meaning of the illustration.*

In some educational materials, illustrations are used to establish setting and create interest, with no inherent communication value intended. The most judicious use of the pictorial illustration, however, would seem to be that in which it is so used, in conjunction with the text, that the resulting whole is a communication package which surpasses both the interest and communication potential of either the text or the pictorial material alone. Such a communication package would be a middle road between comic books on the one hand and traditional textbooks, with illustrations added by the publisher often as an afterthought, on the other.

The present study, of course, has been extremely limited in that the audience, the pictorial illustrations, and the text material involved were all of a special and somewhat unique nature. It is hoped that similar studies be extended to examine the communication potential of illustrative material used with verbal texts of more diverse content than those studied here, and designed for interpretation by others of the many possible audiences.

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UNIVERSITY FILM SOCIETIES AND SERIES

• JACK C. ELLIS

This survey of university and college film societies and film series is a part of an unpublished doctoral dissertation, Approaches to Film as an Art Form: A Handbook for College Teachers, *completed within the interdivisional program in communication and communication arts, Teachers College, Columbia University, 1955. Jack C. Ellis is a research associate with the Film Council of America.*

IN A SURVEY of the 100 largest colleges and universities in this country, begun in 1952, four major film activities assumed prominence: (a) provision of 16mm educational and documentary films by film libraries at minimum rentals for campus, state, or regional use; (b) film production providing for cooperative work of university students and staffs; (c) film research on the instructional film and investigations into the social function of theatrical films, conducted by faculty members and graduate students; (d) film societies, series and festivals, showing foreign and older U. S. features, documentary and experimental films. In this article we will look at the latter of these four activities, realizing that with their large student bodies and considerable resources—staffs, facilities, budgets—the 100 largest colleges and universities in the United States might reasonably be expected to represent advanced thinking and important innovation in this comparatively new field.[1]

Impetus for film societies, series, and festivals (or festivals of the arts which include film) has come from several sources, but all are characterized by enthusiastic student participation and many are student-sponsored. These undertakings are making substantial contributions to informal education in the esthetics, history, and

[1] The 100 schools were selected according to enrollments listed in *Education Directory (1951-52) Part 3, Higher Education,* U. S. Office of Education, Federal Security Agency, Washington, D. C.: Government Printing Office, 1951.

social function of film, but are much more difficult to locate and assess than are the other three extracurricular activities listed above. Within a few years a society may reach a peak of success, die out, and be reborn under another sponsoring group. A faculty sponsor may move to another school. The most experienced of the student enthusiasts graduate. Consequently, it is difficult to determine whether societies or film series are functioning on a particular campus during a given year, and almost impossible to trace the history of their growth for any considerable number of societies. Sources for the following information consist of conversations and correspondence with many people active in the film society movement, accounts of such activities in periodicals, and information from the files of the Film Council of America. The table represents societies and series known to be in operation among the 100 schools between 1952 and 1954. The data are admittedly incomplete and are presented in tabular form for convenience rather than as a statement of quantitative measurement.

STUDENT-SPONSORED FILM SOCIETIES AND SERIES

About 1935 three students at the University of Chicago organized a Documentary Film Group which has since then, with unusual regularity, sponsored a monthly documentary program and a monthly feature. The University of Chicago chapter of United World Federalists has presented weekly film programs, and more than a dozen other student groups have consistently shown films outside the classroom. During the 1948-49 school year there were approximately 30 such showings under student sponsorship each month (6). In addition, foreign features selected by a student committee are shown regularly at International House on the Chicago campus.

At Indiana University during the fall semester of 1947 the Delta Tau Mu, honorary society of art students, sponsored a series of six foreign films at the Art Center with such success that a second series of seven films was arranged for the spring semester. The Film Club and the Rogers Center Film Society have continued the showings at Indiana.

At the University of Michigan the student-sponsored Art Cinema League gained remarkable popularity between 1946 and 1948. (Five thousand tickets were sold for a single performance of *Panic*.) The impetus of this initial series at Michigan continued in the work of the Gothic Film Society and the Cinema Guild, both

student organizations. The Gothic Film Society's 1952-53 season offered 10 programs of "Films of Outstanding Directors," and the Cinema Guild presented weekly showings at the Michigan Union.

DEPARTMENT-SPONSORED FILM SOCIETIES AND SERIES

On still other campuses, comparable film series or festivals of the arts which include film showings are sponsored by an academic department or departments, or by a special agency of the school.

In 1936 the Cornell University Theatre began its Art Cinema with a subscription series of six films produced between 1895 and 1911, the first organized presentation outside New York City of motion pictures from the Museum of Modern Art Film Library. In the 10 years following, approximately 85,000 persons—students and other members of the University and of the community—attended 198 performances. Films shown have included not only revivals of old pictures, but the best documentary and foreign productions. Walter H. Stainton, Professor of Speech and Drama, has directed the Art Cinema division from its inception. Since 1946 a summer session survey course on "The Motion Picture" has used the Art Cinema showings to demonstrate problems of acting, writing, and direction (5). For a full week in April 1952, the University sponsored the Sixth Annual Festival of Contemporary Arts which included "cinematic and theatrical productions."

During the first of the annual Festivals of Contemporary Arts at the University of Illinois (March 1 through March 21, 1948) the Department of Speech sponsored "a showing of some of the finest modern films." In 1950 the festival extended from February 26 through April 3 and was "designed to attract to the Illinois campus the best in contemporary art, architecture, music, literature, cinema, dance, and drama." At the sixth festival (1954) a competition of films "of artistic merit," with special emphasis on "avant-garde and experimental," was inaugurated.

At the University of Michigan, in the summer of 1950, the College of Architecture and Design, Departments of English and Fine Arts, and the School of Music conducted a three-week course on the arts and their interrelationships: "Contemporary Arts and Society." *The Titan* and *Louisiana Story*, shown under the auspices of the student Art Cinema League, formed an integral part of this project.

At the University of Alabama, the Alabama Art in Cinema Society was organized by the Art Department in 1951. During

Table I—FILM SOCIETIES AND SERIES IN THE 100 LARGEST COLLEGES AND UNIVERSITIES IN THE UNITED STATES DURING 1952-1954

State	*School*	*Name of Society or Series*	*Sponsorship* [a]
Ala.	Alabama Polytechnic Institute	Auburn Film Society	Social Center
	University of Alabama	Alabama Art in Cinema Society	Art Department
		The Film Society	AAUW and Extension Division
Calif.	Long Beach City College	Travel Series	Adult Education
	San Francisco State College	Art Movies	Creative Arts Division and Art Club
	Stanford University	The Stanford Film Society	Committee on Public Exercises
	University of California		
	Berkeley	..... [b]	Barrington Hall
	Los Angeles	..... [b]	Committee on Fine Arts Productions
	Riverside	..... [b]	Committee on Drama, Lectures, and Music
	University of Southern California	Film Classics	Dept. of Cinema and Delta Kappa Alpha (honorary film fraternity)
Colo.	University of Colorado	University of Colorado Film Series	University of Colorado Libraries
	University of Denver	..... [b]	School of the Theatre
Conn.	University of Connecticut		Audio-Visual Aids Center [b]
	Yale University	Yale Cinema Association	
		Yale Law School Cinema Club	Yale Law School Student Association [b]
Fla.	Florida State University	Florida State University Film Club	
		Tallahassee Film Classics League	General Extension Division of Florida
	University of Florida	Gainesville Film Classics League	General Extension Division of Florida
		Movie Series	Florida Union Social Board [b]
	University of Miami	Film Society [b]	
Ga.	University of Georgia	Film Club	Lowe Gallery The Georgia Center for Continuing Education
Ill.	Illinois Institute of Technology	Institute of Design Film Survey	Institute of Design
	Northwestern University	Northwestern Film Society	Office of Student Affairs
		Spanish Language Feature Film Program	University College
	Roosevelt University	Roosevelt University Film Society	Alumni Association
	University of Chicago	Documentary Film Group	Independent, student-run
		Foreign Film Series	International House
		Burton-Judson Movies	Burton-Judson Hall
	University of Illinois	Illini Union Movies	Illini Union

State	*School*	*Name of Society or Series*	*Sponsorship* [a]
Ind.	Indiana University	The Film Club	Fine Arts Department
		Rogers Center Film Society	Graduate Cultural Association
	Purdue University	Famous Films Group	University Club (a faculty club)
	University of Notre Dame	[b]	Department of Modern Languages
Iowa	Iowa State College of Agriculture and Mechanic Arts	Film Series	Iowa State College Theatre
	State University of Iowa	State University of Iowa Art Guild	Department of Art
Kans.	Kansas State College	Social and Recreational Committee Movie Series	Social and Recreational Committee
La.	Tulane University of Louisiana	Tulane Cinema Guild	Tulane Student Center
Md.	Johns Hopkins University	University Film Society	[b]
Mass.	Boston University	Boston University Film Society	Audio-Visual Library
	Harvard University	Harvard Liberal Union Film Series	[b]
		Ivy Films	Independent student organization
	Massachusetts Institute of Technology	Architectural Society Film Committee	Department of Architecture
		Lecture Series Committee	[b]
Mich.	Michigan State College	Foreign Film Series	Special Services
		Audio-Visual Weekly Film Showings	Audio-Visual Center
		Art Film Program	Department of Art
	University of Detroit	[b]	[b]
	University of Michigan	Cinema Guild	Michigan Union League
		Gothic Film Society	Independent, student-run
	Wayne University	Cineum	Department of Liberal Arts
		Mackenzie Union Film Committee	Student Center
Minn.	University of Minnesota		
	Minneapolis	University Film Society	Audio-Visual Education Service
	Duluth	..... [b]	Audio-Visual Service
Mo.	University of Missouri		
	Columbia	..... [b]	Memorial Student Union
	Rolla	[b]	General Lectures Committee
	Washington University	St. Louis Film Art Society	University College
Neb.	University of Nebraska	University of Nebraska Film Society	Student Union Activities Committee
N. Y.	Columbia University	[b]	Columbia College
	Cornell University	Cornell University Theatre Film Group	Cornell University Theatre
		Student Art Film Guild	White Art Museum
	New York University	[b]	[b]
	St. John's University	Zeta Movie Series	Zeta Sigma Pi (Omega Chapter)
	Syracuse University	Boar's Head Dramatic Society	Department of Drama

State	*School*	*Name of Society or Series*	*Sponsorship* [a]
N. C.	Duke University	Duke Film Society	Student Activities
	University of North Carolina		
	Chapel Hill	Graham Memorial Activities Board	Graham Memorial Student Union
	Raleigh	Film Committee	North Carolina State College Union
Ohio	Kent State University	Film Classics Club	University Library and the Audio-Visual Center
	Miami University	Oxford Film Society	Audio-Visual Center
	The Ohio State University	Chapel Movie Series	Motion Picture Division
		Film Classics Club	Independent, student-run
		Ohio Union Film Fair	Ohio Union
	Ohio University	Ohio University Camera Club	Photography Department
		Ohio University Film Group	Ohio University Center
	University of Cincinnati	House-Staff Film Society	College of Medicine
	Western Reserve University	Cinema Club	Audio-Visual Aids Department
Okla.	Oklahoma Agricultural and Mechanical College	The Film Arts Club	Independent, students and faculty operate
	University of Oklahoma	Norman Film Society	School of Architecture
		Union Activities Board	Oklahoma Memorial Union
Ore.	Oregon State College	Classic Foreign Films	English Department
	University of Oregon	Feature Series and Educational Series	Erb Memorial Student Union
Pa.	Pennsylvania State University	..... [b]	Division of Dramatics
		..... [b]	Hillel Foundation
	University of Pennsylvania	Cinema Club	[b]
	University of Pittsburgh	University of Pittsburgh Film Society	Independent, student-run
Tex.	Baylor University	Baylor Film Society	Baylor University Union
	University of Houston	[b]	Division of Modern Languages
	University of Texas	Film Showings	Canterbury Club
		Selected Film Classics	The University Film Program Committee
Wash.	State College of Washington	ASSCW Foreign Films Committee	Institute of Agricultural Sciences
	University of Washington	[b]	Henry Art Gallery
		Foreign Feature Films	Film Center
W. Va.	West Virginia University	Film Society	[b]
Wisc.	University of Wisconsin	Cinemashop	Wisconsin Union
		Movie Time	Wisconsin Union
		The Wisconsin Film Society	Bureau of Audio-Visual Instruction

1952-53 it continued to show foreign and domestic moving pictures of historical and artistic importance.

The Audio-Visual Aids Center at the University of Connecticut each spring presents 15 weekly programs of important sound films of the past 20 years chosen by the Foreign Language and English departments. These showings are free to all students in the University; expenses are covered by the Audio-Visual Center's budget.

And at the University of Southern California the Department of Cinema sponsors a program of "Film Classics" each semester. Presented for the University student body and faculty, it consists of outstanding silent and sound feature films.

ADMINISTRATION-SPONSORED FILM SOCIETIES AND SERIES

A third important type of sponsorship of film series is provided by the administration of a college or university.

At Washington University, the St. Louis Art Film Society was started in 1944 by the University College. Eugene R. Page, assistant dean of University College and associate professor of English in Washington University, took over its direction in 1948. The director acts with the advice of a committee of five, including one member from the city art museum, one from the audio-visual division of the public schools, and three others known for their experience and interest in films. The 1950-51 season required an SRO sign at every program (11).

Since the fall of 1948 the University of Washington has sponsored weekly programs of creative documentaries, art, and experimental films at the Henry Art Gallery. Up to May 1951, 90 programs had been presented to 35,000 people at about 350 showings. During the summer of 1949, in response to departmental requests, outstanding foreign feature films were shown in one of the largest auditoriums on campus. These showings gradually became a regular weekly event in cooperation with appropriate departments of the University. Another 35,000 people had seen these films at more than 100 programs by May 1951. Though the audiences for each of the University's two kinds of series were predominantly students and faculty and their families, many who

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[a] "Sponsorship" may mean only that a faculty sponsor is from a given department, that a campus theater or union building is used to house the showings, that a society is part of "student activities," or that an audio-visual center books the films—it does not necessarily mean a formal or dependent relationship. Most of these organizations are self-supporting and are run primarily by undergraduates.

[b] A society is known to exist but its name or the nature of its sponsorship is unknown.

had no connection with the University attended regularly, and there were devotees who came from towns nearby (12).

COORDINATION AMONG FILM SOCIETIES AND SERIES

Recent developments in the college film society movement have included interschool cooperation, a "circuit" in several communities, and statewide, and regional federations. These are important steps in easing the load of sponsorship by individual schools and in extending the opportunity to see fine films to ever larger audiences.

The General Extension Division of Florida, in cooperation with the Florida Film Classics Council, has sponsored Film Classics Leagues on the campuses of the University of Florida and Florida State University and in several Florida towns since 1948. These film series are presented to stimulate an appreciation of the best American and foreign films of the past, as well as recent productions not readily accessible to the general public. During 1952-1953 about 15 biweekly programs were offered in Gainesville, Tallahassee, and St. Petersburg at seasonal membership fees of $2.50 to $3.

During the summer of 1950, Valparaiso University cooperated with the University of Notre Dame in showing six foreign feature films on both campuses. Each film was previewed by a group of faculty members familiar with the subject matter portrayed, and detailed program notes were prepared and made available before the showing. Along with these notes a questionnaire was distributed to discover general audience reaction and the areas in which interest had been stimulated (8).

An interesting development in Ohio, during 1952-53, involved three of the schools in our survey (Kent State, Miami, Ohio State) and three others (Antioch College, Bowling Green University, Mount Union College). A statewide organization of campus film societies was inaugurated in February 1952. The member groups helped each other in program planning, in the dissemination of information on films and projection, in the exchange of ideas on publicity, and in their membership drives. Antioch's club was sponsored by Community Government; Bowling Green's by the Film Arts Society, a group of interested faculty and students; and Mount Union's by interested faculty members (10).

The Film Society of the University of New Mexico, in the fall of 1953, organized a number of societies in the Western states as the Western Region of the Affiliated Film Societies of the U.S.A. Other college and university societies which have cooperated in this

organization include those at Reed College, Rice Institute, San Francisco State College, Stanford, and University of Southern California (7).

Strongest evidence of the increasing tendency toward cooperation among film societies and series was the Film Society Caucus, which first met at the Film Council of America's 1954 American Film Assembly, in Chicago. The Roosevelt University Film Society was selected by the Film Council to act as host at the first caucus meetings. Arthur L. Assum, faculty sponsor of the Roosevelt Society, was elected chairman of the continuing caucus organization. Other societies, among those listed in the table, which were represented at the initial meetings were those at University of Southern California, Yale, Chicago, Indiana, Iowa State College, Minnesota, Ohio, and Wisconsin. Of some 300 film societies replying to a subsequent questionnaire-survey undertaken by the caucus, 49 percent indicated sponsorship by schools, colleges, or universities. Campus societies are providing important leadership in the American Federation of Film Societies, which grew out of the caucus and has been attempting coordination at a national level since its formation at the 1955 American Film Assembly.

EDUCATIONAL SIGNIFICANCE OF FILM SOCIETIES AND SERIES

Even though an accurate quantitative summary cannot be made of college film societies and series, for reasons already given, the 96 societies and regular series known to exist among 64 of the 100 schools give some indication of their prevalence. The descriptive detail provided above suggests the variety of ways in which film showings are sponsored, and their relationship to other college departments and activities. The film society movement constitutes, perhaps, the most widespread, vigorous, and direct approach to film as an art form on college campuses today. By stimulating student interest it may help bring about an increased amount of formal film study in college curriculums. Many film festivals and series are already related to the subject matter of college courses; all offer valuable cultural material for use by college classes.

Though their persistence and pervasiveness testify to their popularity in college communities, the American Federation of Film Societies represents the first attempt to provide national leadership in solving problems common to all such groups and in rendering them even more effective educationally. Continuing organization at a national level, together with full utilization by educators of the

values already inherent in film societies and series, will greatly increase their effectiveness as agencies for informal education in film understanding and appreciation.

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PROCEDURES FOR IMPROVING TELEVISION INSTRUCTION[1]

- OTELLO L. DESIDERATO
- JOSEPH H. KANNER
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This is the third in a series of papers reporting the implications of military research with television as a training and educational medium. Otello L. Desiderato is assistant professor of psychology at Adelphia College. Richard P. Runyon is chief of the Applications Development Section, TV Division, Signal Corps Pictorial Center, Long Island City, New York. Joseph H. Kanner is assistant chief of the TV Branch, Army Pictorial Service Division, Office of the Chief Signal Officer, Department of the Army.

PREVIOUS articles (3,6) have described the HumRRO studies (2), the purpose of which was to make a basic comparison of television instruction with regular instruction under closely controlled conditions. In these studies, current teaching procedures, subject matter content, and presentational sequences were not altered. No attempt was made to obtain the best television presentation possible. The results of that study indicated that under these restrictive conditions, television instruction was superior to regular instruction with subject matters involving the manipulation of small parts, paired associate learning, and the teaching of relationships among moving parts. No superiority for television was found, however, for subject matters of the lecture or lecture-demonstration type.

In the exploration of the teaching effectiveness of any new medium, an early step is to compare it with older, traditional techniques. A number of experimental comparisons reported in the

[1] The substance of this paper was presented at an American Psychological Association Symposium on Military Television in September 1954.

literature (1,4,5) leave no doubt that television does teach. The general purpose of the second series of HumRRO studies was to initiate a closer investigation of certain advantages and limitations of the television medium. Our concern now shifted toward the pedagogical effect of varying the type of presentation given to a television class and the application of some training techniques which film research has singled out as relevant. This paper will discuss this second series of studies.

We had already learned from the first HumRRO study how television compared with traditional class room instruction under controlled conditions (2). But to what extent could techniques be adopted which could improve the effectiveness of lecture-demonstration classes? With Army basic training subject matters it had been found that the teaching effectiveness of television was not superior to regular classroom instruction with lecture or lecture-demonstration type material, even among duller basic trainees (2:30). But in these comparisons, maximal exploitation of the medium was precluded by attempts to equate classroom and television versions as much as possible, save where some inherent properties of television, such as close-ups, made their utilization mandatory. Thus, it was felt that it would be singularly important to determine whether improved utilization of TV could yield increases in the level of teaching effectiveness in areas which our previous study had suggested were unpromising. Therefore, we selected lecture-demonstration classes involving the teaching of fairly abstract concepts where the student's opportunity to ask questions during the instructional hour has been traditionally regarded necessary. The classes consisted of brighter Army trainees for whom our previous study (2) had led us to believe television did not possess comparatively greater teaching effectiveness. To make the task more challenging, the classes selected were four of the most difficult hours of a six-month Radio Repair Course, as indicated by the number of student failures and other school indices.

These hours were normally scheduled early in the principles of electricity section of the course, and dealt with the characteristics of four types of basic radio circuits: Inductive, Capacitive, Series Resonance, and Tank Circuits. The four hours were all of the lecture and blackboard variety. They dealt with the electronic properties of inductors, and capacitors and their effect upon current flow when used in different functional combinations in radio circuits. The objectives of the lessons included a good understand-

ing of the effects of inductors and capacitors on the phase relationships among current, voltage, and counter-electromotive force, with direct, alternating, and pulsating direct current circuits. Trainees were all selected from upper groupings of the electronic aptitude distribution.

Preliminary work involved the preparation of objective tests based upon official lesson outlines for each hour. The tests were administered and revised until they were deemed acceptable on the basis of conventional psychometric requirements. Once the tests were completed, measures were obtained of trainee learning immediately upon the termination of each selected hour, taught in the regular classroom manner. In obtaining this base line, as it were, against which successive improvements in the television versions could be measured, there was no interference with or modification of the usual conduct of classroom presentation.

Production of the television versions proper began with the preparation of scripts for each of the four instructional hours. Each hour of instruction was entirely modified for television presentation with the official lesson plan outlines providing the teaching objectives for each hour. These revisions consisted of a number of different operations. Using test data accumulated at the end of each hour of regular instruction, item analyses were performed. These yielded information about weaknesses of the regular classroom instruction in imparting specific portions of the lesson. In effect, item analyses were used to pinpoint trouble spots where improvement was sorely needed. In such cases, meetings between research psychologists and television personnel were held to discuss how the unsatisfactory portions of the lesson could be presented more effectively by combinations of improved script writing, visual aids, instructor handling, and such production devices as superimposures and close-ups.

Addressing ourselves to the problem of reducing teaching time, close scrutiny of the behavior of instructors standing before a class revealed much irrelevant ad-libbing, reliance upon home-brewed analogies which often broke down even the course of their presentation, and lengthy answers to student questions of frequently dubious cogency. Revisions of regular classroom presentations thus also included attempts to omit much verbal material possessing little relevance to the main concepts of the lesson.

An assessment of highly relevant student questions had previously been made, and such questions and answers were included

in a rhetorical manner in the instructor's television script. Repetition and elaboration of elements critical for the understanding of concepts were stressed. Normal presentational sequences were altered in order to permit the making of inferences on the part of the trainees in anticipation of the actual conclusion-drawing by the instructor. It should be clear of course, that many of these *pedagogical* improvements could just as easily have been made on the regular classroom presentations. The distinguishing feature is the *administrative* advantage offered by television of presenting a well-sharpened educational tool to a large number of student groups, insuring the dissemination of standardized instruction of tested effectiveness.

The same instructor was used with successive versions of each instructional hour. At all times, the instructor would deliver his lecture while reading from a cueing device mounted at eye level on each camera, in such a way that the instructor appeared to be looking directly at the audience.

The results indicate that with the procedures outlined above, it was possible to obtain as much as a 50 percent reduction in the time normally required to present some of these hours in the regular classroom, and still achieve a significant enhancement of learning. This is the extreme case. In most cases, the significant teaching effectiveness of the television versions was maintained only when the normal presentation time was reduced 30 percent or less. For example, when the television version of a 50-minute Tank Circuits class was abbreviated to 18 minutes, the television group's superiority disappeared as mean differences lost significance.

If the objective of reducing presentation time is neglected, classroom and television versions of approximately the same duration usually demonstrated a significant superiority for television classes. For example, in Inductive Circuits classes, television and regular instruction classes of approximately the same length showed superior teaching effectiveness for the television version beyond the .001 level.

Of research interest are the cases in which revision of presentational methods lead to *no* improvement in teaching effectiveness. It would be fruitful, we feel, to experimentally investigate the critical factors which lead to improvement in some instances and not in others. For example, attempts could be made to relate dimensional variation of repetition, confirmation, participation,

and conclusion-drawing variables to achievement scores. Unfortunately, such interests fell outside of the scope of our study which, on a grosser level, was more concerned with localizing problem *areas* rather than with the isolation of specific variables.

As it was possible to construct a more effective television version by using item analyses to reveal the weak points of the regular classroom presentations, it was also possible to attempt successive improvements of television versions in the same manner. Portions of the lesson where learning was demonstrably poor were improved by the introduction of such devices as repetition, oral or written participation, and mnemonic devices. During the instruction, especially after the presentation of particularly elaborate expositions, brief rest periods were introduced during which trainees could study their notes in order to rehearse and integrate before going on to other topics.

Although it was not our purpose to relate the introduction of specific learning variables to specific changes in test performance, we were interested to see whether techniques, of accepted value in film research, could be feasibly adopted for television training purposes. These operations were rather rapidly performed. Indeed, it became routine to present television version A on Monday, analyze the data for weak points the same day, rewrite scripts and plan new production techniques on Tuesday, go into rehearsal with the presumably improved version on Wednesday morning, and have it ready for testing Wednesday afternoon. The rapidity with which these critique, revision, and test operations can be conducted, suggests the desirability of adopting them as routine methods in television training.

We have already mentioned the use of a cueing device used during the television presentations. This equipment has additional implications which deserve some mention. In the HumRRO basic training study (2), no such device was used. One of the problems encountered was that even with 8 to 10 hours of rehearsals, some instructors with as much as a year's experience in classroom teaching would occasionally "blow-up" in the course of a television class, becoming disoriented, forgetting to include important lesson content, and other such things. It was thus highly desirable to determine whether some device could be employed to preclude such occurrences and also, if possible, to reduce the amount of rehearsal time needed to prepare an instructor for a television presentation.

For this purpose, a cueing device was installed in the studio.

This equipment consists of three units, each containing approximately a half-hour script in large type, running vertically down a roller system at adjustable speeds. All three units are simultaneously operated by a remote master control board operated by one person. One unit was mounted directly above the lens of each of the two television cameras that were used. The third was placed directly above a stationary television monitor toward which the instructor "on camera" would occasionally look.

Within two to three hours of spaced rehearsal time, all instructors satisfactorily adjusted to the prompter to the extent that they could permit themselves to face away for blackboard work, to move about freely, and look at and manipulate objects without becoming uncomfortable over momentary disruption of eye contact. The device quickly insured a smooth and continuous flow of presentation of telecast quality only a few hours from the time the instructor began his first television rehearsal.

A rather interesting finding emerged out of our experience with an enlisted man who had absolutely no previous experience in teaching any of the four electronic classes under investigation. In fact, he had had no teaching experience whatsoever. Our interest here was in the possibility of using cueing equipment to reduce the amount of instructor training time required for television instruction in technical subject matters. After two rehearsal hours, the teaching effectiveness of this inexperienced individual did not differ significantly from that of skilled instructors with intimate knowledge of their subject matter, as measured by trainee test scores. These results should be interpreted with extreme caution, however, since this pilot study was limited to one individual. A more extensive investigation of minimal instructor requirements in conjunction with the use of prompting devices is currently being designed. For the military, who are constantly faced with the problem of great turnover among highly specialized instructors, the implications of such possibilities are clear. For the psychologist interested in relating changes in training to changes in performance, the use of such devices may help to reduce the number of uncontrolled nonexperimental variables. This would simplify the task of relating the effects of specific training variables to test behavior, by virtue of increased intra-instructor reliability.

These are some of the methods and some of the results of

our television work at the Signal Corps Training Center, Camp Gordon.

To summarize, the purpose of the second series of studies at Camp Gordon was to explore the possibilities of enhancing the superiority of television instruction in the teaching of basic radio circuits, by employing training techniques which have been found successful by film researchers. A related objective was to attempt to achieve substantial reductions in the amount of time normally required to present such material. In addition, the use of a cueing device was investigated to determine whether the television training time for instructors could be reduced.

The results indicate that television presentations of difficult subject matters can be made to yield considerable savings in time, while the level of learning is either increased or remains constant. The critical factors which lead to improvement in some instances but not in others are still obscure, however. Cueing devices are extremely effective in substantially reducing television training time for sophisticated instructors, and in insuring a dependable level of performance. Cueing devices may prove, after appropriate research, highly useful in facilitating the rapid training of totally inexperienced individuals as acceptable television instructors.

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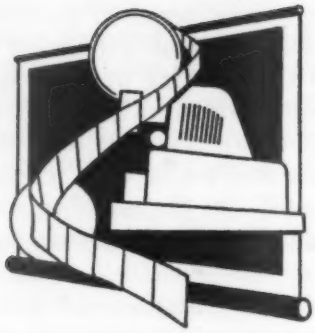

FILM

• ROBERT W. WAGNER

MIKE MAKES HIS MARK

Mike Makes His Mark[1] is the fifth in a series of films produced by the National Education Association in cooperation with the National Association of Secretaries of State Teachers Associations. Other films in the series include *Secure the Blessings, What Greater Gift, Skippy and the Three R's,*[2] and *Freedom to Learn.*[3]

Mike is a teen-age boy who wants to quit school and find a job. As the story begins, Mike is toying with a radio amplifier at breakfast, as his father angrily exclaims: "I don't want to hear any more about quitting school! Put that radio junk away and pay attention!" Referring to the new school which has just been opened in the community, the father harangues his son with: "We paid plenty for that school!" and warns him that he'd better be there if he knows what's good for him. "Alright," Mike grumbles, "I'm goin'!"

As the boy sulks off to school, his mother pleads: "Try not to get into any trouble on the first day!" But Mike is in no mood to be good. On the way, he exhibits unwarranted antagonism towards the policeman on duty at the school crossing, and loiters to talk to Eddie, an older boy who has dropped out of school. Mike admires

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[1] Produced by the NEA and Affiliated State Associations. 16 mm, sound, color, 29 minutes. Cleared for television. Produced by J. P. Nicholson, Agrafilms, Inc. Written by Jarvis Couillard. Directed by Irving Rusinow. Original music composed by Norman Lloyd. Photography by Pinckney Ridgell. Prints may be purchased from the NEA Division of Press and Radio Relations, 1201 Sixteenth St., Washington 6, D. C. Sale price: $170 (color), $75 (black and white). Preview prints available from State Education Association offices.

[2] *AV Communication Review* 2:72; Winter 1954.

[3] *Ibid.* 3:138; Spring 1955.

Eddie, who has a job, a "hot-rod," status at the local pool hall, and complete freedom from schools and school teachers.

As he roars away, Eddie taunts Mike with: "Be a *good* boy and mind the teacher!" The schoolbell rings, Mike winces at the sound, and then, in a gesture of defiance, he deliberately makes a heavy, black mark around the column at the entrance to the new school building.

During assembly, in the auditorium, he picks a fight with another boy, until reprimanded by the teacher, and listens indifferently to the principal's remarks, perking up only at the latter's reference to the mark someone has just put on the building. "No one's to remove it," warns the principal. "It's to stay there. Everytime you go in and out, look at it! Think what it means!"

Mike's classroom teacher is thoughtful, attractive, well cast. She studies the previous records of her pupils, using them "not to judge the student, but only as a reference and a guide." She finds Mike's cumulative record somewhat above average, but his achievement not up to what he might do. Significantly, she notes that he is two full years below his grade in reading.

When Mike fails to integrate with the school program, the teacher sees the school counselor, Mr. Tatum. Tatum agrees to talk to the boy, the opportunity arising when the counselor comes upon Mike looking into the deserted, and unlocked industrial arts laboratory. He follows Mike into the room, finds him examining some radio equipment. Mike grudgingly admits his interest in the subject of radio, and, looking at the wiring job another student has done, allows that "anybody could do better than that!"

The counselor suggests that Mike might be interested in joining the "Kilowatt Club." He invites Mike to his office to pick up a few books that might interest him. During the course of their talk, Mike's suspicions are gradually allayed by the counselor who finds that the boy doesn't see the relation of history, of "things that happened a million years ago," to his interest in radio, and his desire to get a job in the field of electronics. Tatum gives Mike a book on how Mark Twain reached a decision to get his education first before becoming a river pilot, and how he resisted the temptation to be like a friend who "had money, used hair oil, owned a gold watch", and quit school at an early age to become a "steamboat man."

"One of the good things about the new school program," explains the film, "is that teachers have a chance to meet and talk about student problems." In a school staff meeting, it becomes apparent to Mike's teacher, and to the counselor, that Mike does

well in mathematics and technical subjects, and that he is interested in music. He has, however, had no special recognition in these fields. The staff plan is to get him involved in the school orchestra, and put him into the school's remedial reading program.

Mike, still apathetic about the whole idea of school, wanders off to where Eddie is working on a construction project. Eddie, peering up out of the ditch he is digging, sees Mike and offers to get him a job, bragging that he and the foreman are "just like that!" At this point, the foreman appears, orders Eddie back to work, and gives Mike some of the most direct and effective bit of advice he gets anyplace in the film as he says: "Look, kid, it's easy to grab the handle of a shovel. It ain't so easy to let it go. You belong in school!"

Mike finally gets an after-school job in a radio repair shop, but finds, to his embarrassment, and to the disgust of his employer, that he is unable to read and understand the instructions on how to use a simple tube tester. He takes the material to Miss Trent, his remedial reading teacher, and is surprised to find that she is actually able to understand something about radio "just from reading."

"Gradually," the film explains, "in spite of himself, Mike began to realize that the class was reading and talking about things he really wanted to know." Class reports begin to make sense as he relates these and other academic work to his centers of interest. He finds himself participating in the school orchestra, even practicing his kettledrums after hours in preparation for the forthcoming concert.

In the meantime, Mr. Tatum visits Mike's home. The visualization here suggests that the family is in a low income bracket, that the living quarters are cramped, and that the mother, although burdened with the task of caring for three younger children, is not insensitive to Mike's problem. The father has been reading the Mark Twain story which Mr. Tatum loaned to the boy, and apparently appreciates the philosophy contained therein. But when he learns that Mike has been practicing in the school orchestra, he's disturbed. "Mike's supposed to be in school to learn something!" he complains. Although he considers the whole thing a "frill," and "a waste of time," he reluctantly consents to take the family to see Mike play in the concert.

Mike himself finally comes to see Eddie as "Steamboat," the misguided character in the Mark Twain story. He confesses his guilt in the matter of the mark on the school entranceway, and when Mr. Tatum asks him what he's going to do about it, he says decisively, "I'm gonna take it off!"

The counselor suggests they go to see the principal. This they do, but we are not shown how the principal handles the situation. Jarvis Couillard, the writer of the film, told the reviewer he felt that the scene didn't need to be written in because the outcome is obvious. Mike's decision to remove the mark is the dramatic climax of the film, to be sure. However, at the risk of being anticlimactic, a scene between the principal, the counselor, and Mike might have done much to illuminate the importance of intelligent school administration in the success of the guidance program.

The final scene in the film is the school concert, where Mike succeeds beautifully with an orchestra that sounds almost too professional in its performance. The family is there, proud and attentive. Even Eddie shows up briefly, and beneath his cynicism, a suggestion of the realization that he might be missing something is apparent.

Mr. Tatum listens briefly to the opening bars of the concert, as Mike pounds away on his kettledrums, then walks slowly, thoughtfully, out of the auditorium. As he moves down the corridor, the counselor ponders the complex problem which, at this point in the film, seems to be well on the way to solution. "What makes the difference between a Mike and an Eddie?" he wonders. "For Mike there will be other music, other books, other teachers. There will be hours in class, time in the shops, reading, working with others, taking responsibility. Do good schools, good teaching, really make the difference? Perhaps it's the home. Maybe it's Mike himself. It's all of these. And as they all work together, Mike has begun to show the mark of a man!"

As Mr. Tatum reaches the entrance to the building, we see, still faintly visible, the mark which Mike has erased from the column on the doorway. Fade out.

Mike Makes His Mark is capably written, and well photographed. Irving Rusinow displays touches of deft direction, notably in the opening scene between Mike and his father, in the handling of the school orchestra during its first practice, and in the characterization of Mike himself. The part of Mr. Tatum is played by the only actor in an otherwise nonprofessional, but well chosen cast.

Mike does a good job of pointing out to parents and the general public the importance of good schools, capable teachers, and a guidance program. Thus, it satisfies its basic intent, and fulfills with integrity its primary objective.

To this reviewer, however, this film is less stimulating, less original in treatment than *Skippy and the Three R's*, or *Freedom To Learn*. And, if in watching it, teachers and teachers in training get the feeling that they have heard the story somewhere before,

it's doubtless because the problem of relating a school program to the needs and interests of the child is such a familiar one, and because it has been made the subject of a number of similar films in the past. *Mike* is an excellent statement of the topic for the lay audience; however, it would seem to shed little new light on an old subject for the educator.

There is a sense, too, of finality, of "all's right with the world," stiffened only in the last moments of the film, as the counselor ponders briefly, questions which might well be the central challenge of many another film yet to be produced. What *does* make the difference between a Mike and an Eddie? Is it the school program? The home? The child himself?

The answer, of course, is that it's all of these. This is a generalization, an easy answer, to be sure, yet a true one, and one which has to be stated. We live in a time bedeviled by a multitude of knotty problems, when the premium is on giving the "right" answer. We look for the happy ending. We feel cheated, frustrated, unsatisfied with the book which ends in an unresolved conflict. In producing a teaching film we feel constrained to show, or infer that all problems can be solved if we but understand them, that our answers are fundamentally sound, that if the viewer pays attention, he can go and do likewise.

Today the "right" answer can be worth as much as $64.000. The right questions, however, often turn out to be embarrassing, or sometimes even dangerous.

How many films give us a sense of the complexity of the problems we face? Do they tend to present a realistic appraisal of the state of our intelligence with regard to those problems? Do they massage our egos, convey, directly or indirectly, the predominant idea that we're doing pretty well? Or do they occasionally, at least, remind us of how little we really know about human behavior, about the physical world in which we live? Are we, as Charles F. Kettering once said, "so busy clapping ourselves on the back for what we've done up to now, that we forget we're submerged in infinite ignorance"?

The sense of finality in many teaching films would seem to inhibit their use as a spur to creative thought, dull them as tools for fundamental fact finding, and weaken them as evidence in the continuing search for an understanding of those difficult problems to which there are as yet no satisfactory answers. If the teacher's job is not to pack the student's head with facts, but to stimulate him to independent thought, to make possible the conditions of learning, then more films designed for educational use should also make possi-

ble the same conditions, provide something of the same stimulus to thought.

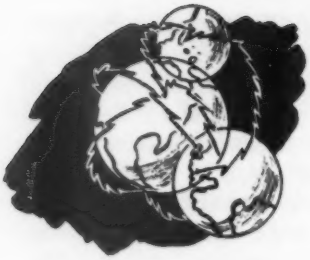
How, for example, will the need for intelligent counseling and guidance for our children be met in the face of a rapidly rising school population, and a shortage of good people in the teaching profession? Might we learn more from a study of the Eddies who don't "make the mark," than from the happier experience of a Mike? How can we explain the school program that fails? What about the community that breeds a negative attitude towards school and society? And what of the society which puts the emphasis on giving the "right," and often easy answer, ahead of asking the right, and often difficult questions?

We need to know much more about how to help Mike "make his mark." The whole business of education is problem *solving*. "Right" answers are important. But the answers can never be worth more than the questions to which they refer. In this sense, the most genuinely educational films may turn out to be those which "tell" the least, and "ask" the most.

Films which pose basic questions, which are provocative, stimulating, and which illuminate the known and explore the unknown, are easier to talk about than to produce. But it would seem that they would have to be in the nature of excursions into the hard realities of our times, rather than studio stories. They would have to be much more realistic, in the manner of some of the early social documentaries, and much more questioning, in the manner of an Edward R. Murrow television-film treatment of a problem situation.

The subject matter of the NEA's newest film, now in production, suggests such a realistic, documentary approach. Titled, *A Desk for Billie*, this will be a 55-minute sound production, based on the book, *I Was a Hobo Kid*, the life story of Billie Davis, who as a child in a migrant worker family, found public schools and teachers her only hope for a better future. This production is scheduled for release in September 1956.

In the meantime, the National Education Association is to be commended for the sustained effort represented by *Mike Makes His Mark*, and others in its comprehensive series of motion pictures in the field of education.



WORLD COMMUNICATION

• WILLIAM F. GELABERT

DEVELOPMENT OF IRAN-AMERICA AUDIO-VISUAL SERVICE

THE UNITED STATES has assisted Iran during the past three years to develop a national audio-visual program that is reaching out to all sections of the nation to help in the improvement of education, agriculture, health, labor, and industry. It is known as the Iran-America Audio-Visual Service and is a unit of the Ministry of Education.

The work actually started in October 1949 when John L. Hamilton arrived in Tehran as films officer for the United States Information Service. Mr. Hamilton saw the potential value of motion pictures in reaching large groups of Iranians quickly with messages sponsored by the United States Information Service. He asked himself what messages should be brought to the people of Iran—messages they would understand and that would bring the greatest benefit to them.

The answer to this question was in the fact that Iran *is* basically an agricultural country with 80 percent of the people earning their living off the land. The infant mortality rate in 1949 was exceptionally high. The incidence of malaria in some Caspian Coast areas was as high as 90 percent. Educational facilities were still pathetically short in many villages despite Iran's 25-year campaign to develop schools. Since 1949 infant mortality has been greatly reduced. The incidence of malaria in the Caspian area has been reduced to less than five percent.

WILLIAM F. GELABERT has served in Iran, Turkey, and Greece since the spring of 1951 when he replaced Anna Hyer, now with DAVI, as head of the Syracuse University Overseas Film Project. In July 1952 Mr. Gelabert assumed the position of Audio-Visual Officer for the Point Four Mission to Iran. Mr. Gelabert is on leave of absence from the Syracuse University Audio-Visual Center which has played a leading role in the development of audio-visual work in the Middle East through contracts with the United States Government.

The United States was interested in helping in the development of Iran and a higher standard of living for her people. Mr. Hamilton's problem was to find a film program which would assist in this objective—a program which could be understood by the Iranian villager who had not had the advantages of a village school, modern information on agriculture, or public health information.

The United States Information Service studied Mr. Hamilton's reports in Washington and then obtained the services of Don G. Williams of the Syracuse University Audio-Visual Center to study the possibilities of using university film production crews to produce training motion pictures in Iran and countries of the Middle East. It was felt that university crews might be suited to this type of assignment because of their experience in producing 16 mm films specifically meeting an educational need. Iran had such needs, particularly in health, education, and agriculture.

Dr. Williams' survey first supported the view that university production crews could be utilized in this type-production activity and second, supported Mr. Hamilton's original contention that audio-visual materials, particularly the motion picture, could play an important role in the rapid dissemination of basic technical type information to mass audiences of low literacy level such as those found in rural Iran.

The situation in this case has several similarities to the situation faced by the U. S. armed forces in the early days of World War II when hundreds of thousands of American youths were to be trained in new, unfamiliar tasks by a few trained technicians in a minimum amount of time. It was in these days that training specialists developed more efficient methods of teaching through the introduction of training devices or, as they are more commonly known today, audio-visual instructional materials.

To implement Dr. Williams' report, the United States Information Service entered into a contract with Syracuse University to provide two motion picture crews in Iran and one each in Turkey and Greece during the winter and spring of 1951. The Iran crews arrived in the beginning of a period of political turmoil in Tehran which was touched off by the assassination of the Prime Minister and the Minister of Education. The political history of the country which followed is world-wide knowledge and is mentioned here only to remind you of the situation in which these crews were to start production.

Dr. Williams, during his survey in the fall of 1950, supervised the production of three films, one aimed at the most basic of all Iran's health problems, the survival of an infant. Two other films were developed around agricultural themes. The film crews fol-

lowed this lead by developing additional health and agriculture topics with the technical advice and assistance of representatives of the Iranian Ministries of Health and Agriculture. In the fall of 1951 a series of five human geography films on the areas and peoples of Iran was planned and executed with the assistance of the Fine Arts Administration, the Ministry of Education, and the Department of Archeology. This series, presently in use throughout Iran, provides the citizens of this vast land with an introduction to their fellow citizens and to historic or religious sites which they might not otherwise have the opportunity of seeing. A greater feeling of national pride through these films is developing in the remote villages of Iran.

The arrival of the first Point Four technicians and their need for a means of communication of technical "know how" on a large scale basis meant more work for the film crews. Scripts were developed in almost every phase of Point Four activity, which was mainly aimed at the development of rural Iran. Technicians in health and agriculture were quick to recognize the value of the early films produced by USIS, and with their cooperation, arranged regular film programs in support of their own village work. The scheduling and distribution of these and later films was gradually transferred to provincial offices which Point Four opened in Ostan capitals throughout 1952 to reach out into the country with its technical assistance program.

Results of the combined efforts of the technician and the film flowed in steadily from these Ostan offices. Villages were sprayed with DDT after a showing of the film *Fight Against Malaria* where prior to the program the spray teams had been refused admittance. In other villages residents even volunteered to assist the spray teams saving many precious days in a battle which has reduced the incidence of malaria from over 90 percent in some areas to less than 10 percent. Just this spring in 12 recently distributed Crown Lands villages in the Veramin Plain east of Tehran, the villagers themselves purchased over 100 DDT hand sprayers over a two-week period at a time when the sen bug was threatening their crops following the presentation of a program based on the film *Care and Maintenance of a DDT Pump.*

Agricultural films have helped gain acceptance for the artificial insemination program, the poultry improvement campaign, and modern irrigation methods. This year agriculture extension agents will be urging farmers through films to grow better sugar beets to help meet the large deficit the country faces each year in this vital commodity and to utilize the now wasted sugar beet by-products for feed for the undernourished livestock throughout the country.

Such films as these promoted the need for other materials such as posters, brochures, extension bulletins, and filmstrips. These added to radio talks and a bimonthly rural magazine, have brought technical information to Iran's rural people in vast quantities within the brief five-year period since the first American audio-visual specialist arrived in Tehran.

But the production aspect was only a portion of the story. From the beginning, the USIS films officer and his staff provided training in the utilization of audio-visual materials to school teachers through short courses in Tehran. These were followed by a more intensive training course given by Charles Milner of the University of North Carolina under the sponsorship of the Smith-Mundt Act. Point Four established a program giving short course training in the Normal School in all Ostans by William McSwain of the University of Utah and followed up with the establishment of an audio-visual division under this author's direction in August 1953. Until that time audio-visual activities were limited to the support of Point Four technicians. In establishing the audio-visual division the director of the U. S. Operations Mission to Iran charged the division chief with the continuing support of these technicians in addition to the development of projects which would provide training to Iranian nationals in the audio-visual field.

On November 11, 1953, a cooperative training project was signed into operation by His Excellency Reza Djafari, Minister of Education, and William E. Warne, Director of the United States of America Operations Mission to Iran. Through this project agreement, the personnel and facilities of these two agencies were combined to form the production and training center known as the Iran-America Audio-Visual Service and located in the Fine Arts Administration.

Courses in motion picture and filmstrip production, in conjunction with practical field experience, have kept 57 students and 12 instructors and their assistants busy six days a week, since the training began.

Motion picture sets were constructed in buildings which formerly housed sculpture studies. Sound recording facilities were installed and editing rooms were built to be used by trainees from all parts of Iran representing several different ministries interested in producing instructional films and filmstrips.

In April 1954, short courses were begun in the field of utilization of audio-visual materials and the production of nonphotographic visual aids. Mr. Gilbert Tauffner of Syracuse University came to Iran to supervise the training program. These courses were designed to take full advantage of the materials created

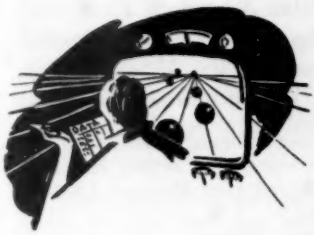
by the production crews and to utilize fully other teaching aids available in Iran. The courses are continuing under the direction of Sa'id Salehi who is now training agriculture extension agents, health educators, and elementary- and secondary-school teachers how to use audio-visual methods of communication.

By July 1954, 80 films and 20 filmstrips had been produced by American crews cooperating with agencies interested in forwarding technical advancement in Iran.

On August 4, 1954 the first student-produced film, a documentary on the flood in Khuzestan, in southern Iran, was shown to an audience of Iranian Ministry and United States Government officials. The enthusiastic reception given this film, coupled with the success of the films produced earlier, testifies to the soundness of the planning and development of the audio-visual center.

During 1955 the center added a teaching materials branch to provide a supply of nonphotographic visual aids to be fed into the utilization program. The facilities of Point Four's film library were transferred to the IAAVS, to provide films, filmstrips, and projection equipment to technicians through audio-visual supervisors in the provinces of Iran. The library staff, in cooperation with utilization personnel, develops programs to aid the dissemination of technical information throughout the country. A demonstration film-processing laboratory is being installed to provide training in modern film processing and printing skills. This laboratory will service the production of the center. Six American university contract technicians are now provided by the U. S. Operations Mission to Iran to provide training to the Iranian staff.

Student crews have developed into production crews with a full slate of films and filmstrips to be produced in the coming year. American instructors are gradually being replaced by Iranian technicians who are now capable of supervising the work themselves. Iranian villagers are continuing to learn new skills, new techniques and methods for developing an improved standard of living. The Iran-America Audio-Visual Service is, by making possible mass education, helping the Iranian villager to build a better life for himself and his family.



RESEARCH ABSTRACTS

FILM

FLETCHER, RICHARD M. *"Profile Analysis and Its Effect on Learning When Used To Shorten Recorded Film Commentaries." Technical Report SDC 269-7-55. Research by the Instructional Film Research Program, Pennsylvania State University for the Special Devices Center, Office of Naval Research, Port Washington, L. I., N. Y. 25 p. August 30, 1955.*

Purpose: The purpose of this experiment was to determine the effect on learning of the profile technique developed by Twyford when used to shorten instructional material such as a lecture, film, and such, as compared to shortening the same material without the use of the profile technique. The profile technique is much simpler and quicker to use in making an evaluation than the established method of measuring learnings with tests.

Procedure: The commentaries for the films *The Weather* and *Human Reproduction* were selected for analysis. It is at the commentary stage that it is most feasible to make any desired modification. Four profiles were obtained from four groups of 32 recruits each. Each recruit turned a knob to indicate whether he was learning nothing, little, average, much, or the most he could. Each film commentary was shortened (a) by a group of judges using profiles of learning and (b) by a different group of judges without benefit of the profiles. The shortened versions of *Human Reproduction* were heard by four companies of men and were tested on each bit of information contained in the commentaries.

Results: The major finding of this study was that, with the film commentary of *Human Reproduction* there was equal learning for those hearing the shortest version—the profile version, as compared to the longer script writers' and full versions. Script writers cut out 11 percent of the sentences which was 8 percent of the duration while the profile version had 26 percent of the sentences removed which took 24 percent of the presentation time. It was recommended that profile analysis be employed by writers of film commentaries to eliminate material prior to production that does not contribute to learning so that it can be replaced with material that does. If this had been done with the film *Human Reproduction* the amount of learning could have been increased by 31 percent. It was also recommended that profile analysis be used by instructors and others concerned with evaluating training to discover what is being learned.—*L. Twyford*

McNIVEN, MALCOLM. *"The Effects on Learning of the Perceived Usefulness of the Material To Be Learned." Technical Report SDC 269-7-54. Research by the Instructional Film Research Program, Pennsylvania State University for the Special Devices Center, Office of Naval Research, Port Washington, L. I., N. Y. 33 p. August 30, 1955.*

Purpose: To show to what extent the perceived usefulness of information is a factor in motivation to learn and to what extent it results in actual learning. A second problem was to develop a measure of perceived goal distance (usefulness) and to show its relationship to learning scores.

Procedure: Three films titled *Help Wanted, Atomic Energy,* and *Know Your Car* were shown to 473 high-school seniors. Three groups were told that they would need to know the information contained in the films after different lapses of time. Three groups ranked the three films in order of the perceived usefulness of the films to them. Data was obtained from pretest and posttest scores, attitude scale scores, Otis Mental Abilities Test scores and film rank.

Results: The greater the usefulness or relevance of film material as perceived by the learner the greater will be his learning from that material. A reliable scale was developed which measures how useful or relevant material appears to be to the trainee. It was recommended that the scale of perceived usefulness be used and tested to discover the range of its applicability. The appendix includes a rating form, attitude scale for the films, and an attitude scale modified for use with a university course.—*L. Twyford*

McCOY, EDWARD P. *"An Application of Research Findings To Training Film Production." Technical Report SDC 269-7-44. Research by the Instructional Film Research Program, Pennsylvania State University for the Special Devices Center, Office of Naval Research, Port Washington, L. I., N. Y. 29 p. May 30, 1955.*

Purpose: To describe the planning and production procedures followed in making a series of nine experimental films for teaching marksmanship with the M-1 rifle employing pertinent research findings of the Instructional Film Research Program. The films were designed to be "maximally effective" films aimed at attaining defined objectives with a very specific audience under specified viewing conditions.

Procedure: The films were designed by execution of the following steps: (a) statement of general specification of the series of films, (b) delineation of film content and formulation of objectives for each film, (c) analysis of the specific teaching tasks for each film, (d) study of the target audience, and (e) analysis of the use situation and outline of its implications for film structure and characteristics.

Results: The films were used effectively and resulted in a reduction in training time, expenditure of ammunition as well as a considerable increase in training effectiveness. The report describes the general treatment, handling of trouble spots, commentary, pictorial structure, size of shots, camera angle, set, lighting, cinematography, "repeatability," errors to be avoided, relating film's characteristics to the target audience, use of a protagonist and motivation. The principal value to the producer, of film research findings, are (a) to assist him in clearly defining problems rather than giving him ready made solutions, (b) to suggest to him critical areas in film design and production *where* decisions must be made rather than to tell what decisions to make, and (c) to provide

detailed research findings about many film characteristics and how they affect learning in a variety of situations.—*L. Twyford*

KALE, S. V., and GROSSLIGHT, J. H. *"Exploratory Studies in the Use of Pictures and Sound for Teaching Foreign Language Vocabulary." Technical Report SDC 269-7-53 Research by the Instructional Film Research Program, Pennsylvania State University for the Special Devices Center, Office of Naval Research, Port Washington, L. I., N. Y. 57 p. August 20, 1955.*

Purpose: To investigate the effects of a number of variables which appear basic to the learning of foreign language vocabulary. These variables included the use of words only, still pictures and motion pictures with and without sound and with and without English words, student participation by pronouncing the words, and the use of varied and fixed order of presentation of the words to be learned.

Procedure: Vocabulary of the Russian language was selected for learning rather than sentence construction. Performance was measured by ability to write the words rather than to write and speak them. In Study No. 1 five versions of motion pictures were prepared in which words were presented as (a) titles, (b) still pictures with English and Russian words, (c) motion pictures, (d) sound motion pictures, and (e) sound motion pictures with student participation. This study attempted to show whether there was a difference between still and motion picture methods in teaching nouns as compared to verbs. The Russian words were taught to 409 college students by the five methods. Study No. 2 consisted of three experiments in which were studied (a) random vs. serial presentation, (b) picture and sound presentation, and (c) picture and picture-word presentation.

Results: It was concluded that for teaching a foreign vocabulary in which the criterion of learning is the ability to write the foreign words that (a) pictures of an object or act are an aid to learning, (b) motion in the pictures is of no value, (c) pronunciation of the words by a narrator inhibits learning, (d) pronunciation of the words by the learner inhibits learning, and (e) women were superior to men in learning foreign vocabulary. Films were found to be a very convenient method for repetitive presentation of words in a fixed order, however random order, presentation of words may be desirable. It was recommended that since still pictures appear to be as effective as motion pictures that the expense of producing motion pictures be avoided by using still pictures—*L.Twyford*

SPIGLE, IRVING S. *The Cumulative Effect of Selected Educational Motion Pictures on the Attitudes of High-School Boys and the Relationship of Attitude Changes to Selected Personality and Intelligence Factors.* Doctor's thesis. Bloomington, Indiana: School of Education, Indiana University, 120 p. (Typewritten)

Purpose: To determine experimentally the relationship of personality traits and various aspects of intelligence to changes in attitudes brought about through the use of four films in the *Are You Ready for Service* film series.

Procedure: Seventy-nine boys in six senior social studies classes in a large Indiana high school were given an attitude scale designed by the author to measure attitudes of high-school boys toward the Armed Forces. This scale was a modification of one originally designed by Ida B. Kelley and edited by

H. H. Remmers, titled *A Scale for Measuring Attitudes Toward Any Institution.* One week later a different 11-minute film was shown each day for a period of four days. These four films are part of a series titled *Are You Ready for Service* and were selected because it was felt they would have the most influence on the attitudes of the experimental group. On the fifth day the attitude scale was again administered to the group. During the following two-week period the *Bernreuter Personality Inventory* was given to each subject; and scores on the *ACE Psychological Examination for College Freshmen*, the *SRA Primary Mental Ability Tests*, and the students' cumulative grade averages were obtained from the school records. A control group of 20 boys in two senior English classes took the two attitude scales at the same time interval as the experimental group, but did not see the films.

For the purposes of analysis, the experimental group was divided into three groups—(a) those who had changed in a direction more favorable to the Armed Forces, (b) those who had not changed attitudes, and (c) those who had become less favorable. Analysis of variance and t-tests were used to determine whether or not the differences in the scores of these subgroups on the Bernreuter, ACE, SRA, and grade averages were significant.

Results: (a) The majority of the experimental group changed significantly with respect to their attitude toward the Armed Forces while the control group did not. However, of the individuals in the experimental group who changed, almost half of them changed in the direction opposite to that which the films had been designed to achieve. (b) The films seemed to have caused those who were originally less favorable to become more favorable and those who were favorable to become less favorable as a result of the exposure. (c) One aspect of intelligence, that measured by the quantitative test of the ACE examination, seemed to be related to changes in attitudes of the experimental groups with the group that moved in the unfavorable direction having a significantly higher mean score than the group moving in the favorable direction. (d) There was no evidence to indicate that personality traits as measured by the *Bernreuter Personality Inventory*, various aspects of intelligence other than that measured by the quantitative test of the ACE examination, and grades received by the student while in high school, had any significant relationship to the types of responses on the attitude scales given to the experimental group.—*John Moldstad*

COCKRUM, JAMES EDWIN. *A Comparative Study of Selected Educational Music Film Evaluations As Prepared By Selected Groups.* Doctor's theses, Bloomington, Indiana: School of Education, Indiana University, 251 p. (Typewritten)

Purpose: (a) To determine the similarities and differences in evaluations of music films within and between five selected groups of music educators affecting or affected by music films. (b) To draw conclusions concerning the strengths and weaknesses of the selected educational music films used in the study. (c) To draw conclusions concerning the merit or lack of merit of the music film evaluation forms used in this study.

Procedure: The author selected nine films from 124 educational music films which he previewed, and constructed an educational music film evaluation form, a student music film questionnaire, and a personal data form for use with selected groups of evaluators. The five groups, consisting of 24 cases each, included persons specializing as, or currently enrolled as (a) college music educators, (b) college music specialists, (c) secondary-school music teachers, (d) secondary-school music students, and (e) secondary-school nonmusic

students. Students in a graduate music class at Indiana University served as a pilot group which made recommendations regarding revision of the evaluation forms and helped select the films *New York Philharmonic Orchestra, Tschaikowsky's Fourth Symphony,* and *Beethoven and His Music* for final study. Evaluations of these films were made at eight colleges and universities and at 13 high schools in Illinois and Indiana.

Results: (a) The majority of the participants had little or no training in audio-visual methods and materials. (b) College music educators were making the most extensive use of audio-visual materials and college music specialists were making the least use of them. (c) Every group reported difficulty in finding suitable material. (d) The majority of each group indicated interest in and a favorable attitude toward the use of audio-visual media. (e) College music educators and nonmusic students generally gave the films the lowest ratings and music students and high-school instructors gave the highest over-all ratings. (g) There was widespread disagreement within each group in their ratings of individual items, and therefore composite evaluations combining the evaluations of a number of persons were recommended. (h) The educational music film evaluation forms used in the study appeared to have been satisfactory. (i) Specialized, detailed evaluation forms have a definite advantage over simplified versions for evaluating films in specialized areas such as music education.—*John Moldstad*

TELEVISION

EVANS, RICHARD I.; RONEY, H. BURR; and McADAMS, WALTER J. *"An Evaluation of the Effectiveness of Instruction and Audience Reaction to Programming an Educational Television Station." Journal of Applied Psychology* 39: 277-79; August 1955.

Purpose: (a) To test the effectiveness of television in teaching a college-level elementary psychology course and an elementary biology course. (b) To determine the size and some reactions of the Houston-wide audience of the University of Houston's educational TV station KUHT-TV.

Procedure: In the psychology course 17 subjects were enrolled in a TV-lecture only (correspondence) section, 96 in a traditional campus lecture section, 30 in a section which had TV-lectures plus two campus discussion periods a week. To prevent contamination, the traditional class completed the course before the two TV classes began. There was no preliminary matching or tests for significant basic differences.

In the biology course there were only two sections, the traditional campus course and TV-lecture plus discussion meetings, matched for age, grade and sex.

Results: (a) T-tests showed no significant differences between the sections in either course in standardized achievement tests. (b) An audience telephone questionnaire to 384 people indicated that 75 percent of the set owners watched one program in two weeks from KUHT-TV, 18 percent of these watched two a week, 50 percent of them had no favorite KUHT-TV program, 83 percent would like to see sports, 75 percent educational films, 68 percent panel discussions, 60 percent children's programs, 50 percent lectures, 44 percent telecourses, 39 percent classical music.—*Paul Wendt*

SHERMAN, MENDEL. *An Exploratory Study into the Feasibility of Using Television for Evaluating Instructional Motion Pictures.*

Doctor's thesis. Los Angeles, California: School of Education, University of Southern California, 239 p. (Typewritten)

Purpose: To explore the feasibility of using television for teacher evaluation of instructional motion pictures.

Procedure: Two groups of teachers in the Los Angeles County Schools and the Cincinnati Public Schools participated in the evaluation of five recently produced instructional motion pictures. One group consisting of teachers in the intermediate grades viewed the films in their homes by means of television, while the second group consisting of members of school audio-visual committees viewed the same films via conventional motion picture projection. Comparisons of the evaluations were made using data secured from a specially constructed evaluation form and from an accompanying questionnaire. Chi-square analyses were used to determine significant differences between the group evaluations.

Results: (a) Teachers viewing televised instructional motion pictures gave essentially the same ratings to black-and-white films as were given by the usual audio-visual committees who viewed the films by direct motion picture projection. This was not found to be true of color films received as black-and-white images on television. (b) No single criterion of itself seemed to guarantee acceptance or rejection of a film. Main reasons for recommending a film seemed to be that the film presented and explained subjectmatter relevant to the established curriculum in a clear, understandable, and interesting manner. Reasons most often given for not recommending instructional films included: (a) too difficult or advanced for the grade level, and (b) not relevant to the curriculum. (c) The teacher groups in the different cities who viewed the televised instructional motion pictures gave essentially the same ratings to some of the criteria and different ratings to others. Items on which there was the greatest divergence included "relevancy to the curriculum" and "pupil comprehension." (d) Ninety-one percent of the teachers who evaluated the televised instructional films approved of the procedure and indicated that they felt two films of approximately 10-15 minutes could be evaluated adequately on one television program. (e) The data from this study indicate that the evaluations given by teachers to televised, black-and-white films are as reliable and usable for determining purchase as are the evaluations of audio-visual committees.—*John Moldstad*

OTHER PUBLICATIONS

Department of Audio-Visual Instruction
National Education Association of the United States
1201 Sixteenth Street, Northwest, Washington 6, D. C.

A Directory of Graduate AV Programs for the Professional Education of Audio-Visual Supervisors, Directors, and Building Coordinators
Price, $0.50

National Tape Recording Catalog
Price, $0.50

1955 Supplement—National Tape Recording Catalog
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The School Administrator and His Audio-Visual Program—1954 Yearbook
Price, $3.75
DAVI members, $3.00

Planning Schools for Use of Audio-Visual Materials—No. 1, Classrooms
Price, $1.00

Planning Schools for Use of Audio-Visual Materials—No. 2, Auditoriums
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